



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

Manual of examinations
for the
Classified Civil Service
of the
United States
1899 (Jan 1)

US 479.7.16



Harvard College Library

FROM

The Civil Service Commission

6 Feb. 1899

~~9384.62.6~~

UNITED STATES CIVIL SERVICE COMMISSION.

lower

MANUAL OF EXAMINATIONS

FOR THE

CLASSIFIED CIVIL SERVICE

OF THE

UNITED STATES.

(REVISED TO JANUARY 1, 1899.)

[The Reports of the Commission, showing its work and containing the civil-service act, rules, and regulations, can be consulted at the principal public libraries.]

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1899.

US 479.7.16



Harvard College Library

FROM

The Civil Serv. Commission

6 Feb. 1899

~~9,384,626~~

UNITED STATES CIVIL SERVICE COMMISSION.

cover

MANUAL OF EXAMINATIONS

FOR THE

CLASSIFIED CIVIL SERVICE

OF THE

UNITED STATES.

(REVISED TO JANUARY 1, 1899.)

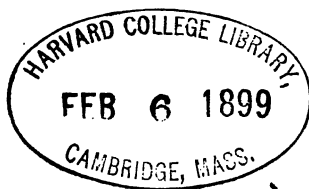
[The Reports of the Commission, showing its work and containing the civil-service act, rules, and regulations, can be consulted at the principal public libraries.]



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1899.

US 479.716

~~9384.62.6~~



The Commissioner

UNITED STATES CIVIL-SERVICE COMMISSION.

INTRODUCTORY.

January 16, 1883, Congress passed what is known as the civil-service law. This act established the United States Civil Service Commission, to be composed of three members, not more than two of whom shall be adherents of the same political party. The act itself is a mere outline of its purposes, but for its amplification it provides for rules to be promulgated by the President, such rules to be equally binding with the statute upon the heads of departments and offices, as well as upon the Commission. The fundamental purpose of the law and rules is to establish, in the parts of the service within their provisions, a merit system whereby selection for appointments shall be made upon the basis of demonstrated relative fitness, without regard to political considerations. To carry out this purpose a plan of competitive examinations is prescribed.

The term "classified service" indicates the parts of the service within the provisions of the civil-service law and rules requiring appointments therein to be made upon examination and certification by the Commission; the term "unclassified service" indicates the parts of the service which are not within those provisions, and therefore in which appointments may be made without examination and certification by the Commission.

Under the terms of the law positions outside the executive branch of the Government, positions to which appointment is made by the President and confirmed by the Senate, and positions of mere unskilled manual labor, are not required to be classified. With these limitations, the President is authorized to direct, from time to time, in his discretion, the heads of departments and offices to extend the classified service. Under this authority the classified service has been gradually extended until it now includes about 83,000 individual positions. The Commission has nothing to do with classifying any position except those in its own force. In the executive service not yet classified are the following: Consular service, post-offices without free delivery, governments of the District of Columbia and of Territories, Congressional Library, and some other parts of the service.

A few positions which have been classified have afterwards been excepted from examination, and appointments to such positions may accordingly be made in the same manner as in the unclassified service. There are a few others to which appointments may be made upon noncompetitive examination.

The civil-service law and rules do not give to the Commission any power of appointment and removal; that power is left where it was prior to such law, namely, in the President and heads of departments. Upon requisition of an appointing officer the Commission provides eligibles secured as the result of competitive examination; from the eligibles thus provided the appointing officer makes selection and appointment. When the Commission certifies three eligibles for any particular position, the appointing officer has absolute discretion in making selection and appointment from such eligibles, except that the rules require that selection shall be made without regard to political considerations. When certification is made the Commission's duty ends so far as an appointment is concerned, except, of course, it is charged with investigating and reporting any irregularity of appointment or removal.

A vacancy in the classified service may be filled either by original appointment upon examination and certification by the Commission as explained, or by transfer or promotion from certain other positions in the classified service, or by reinstatement of some person within one year from the date of his separation if separated without delinquency or misconduct. In the reinstatement of honorably discharged soldiers and sailors in the war of the rebellion, their widows, and army nurses of said war, the year limitation is waived.

For a larger part of the positions in the classified service the Commission holds examinations on regular schedule dates throughout the country (see schedule herein). For positions in which vacancies occur infrequently examinations are held only as the needs of the service seem to demand. No information can be given, prior to their announcement, as to when such examinations will be held or as to their scope and character. They are, however, always announced in the public press. (See also sec. 19 herein.)

This Manual contains a full list of the examinations which are held on regular schedule dates and fully indicates their scope and character. It also gives very full information as to the method of entering the service through examination and as to the conditions of eligibility. Most of the questions, therefore, which correspondents ask are answered by information herein contained. Hence persons who are seeking for information should study the Manual carefully, as they will find more complete information therein than can be given in correspondence.

By direction of the Commission:

JOHN R. PROCTER, *President.*

US 479.7.16



Harvard College Library

FROM

The Civil Service Commission

6 Feb. 1899

~~9.384.62.6~~

UNITED STATES CIVIL SERVICE COMMISSION.

20000

MANUAL OF EXAMINATIONS

FOR THE

CLASSIFIED CIVIL SERVICE

OF THE

UNITED STATES.

(REVISED TO JANUARY 1, 1899.)

*[The Reports of the Commission, showing its work and containing the
civil-service act, rules, and regulations, can be consulted
at the principal public libraries.]*

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1899.

engravers, Bureau Engraving and Printing; entomologist; forage master, Quartermaster Department; forestry clerk; horticulturist; horticulturist, assistant; hydrographer, assistant; illustrator, agrostology division, Agricultural Department; immigration service; inspectors, clothing, armor plate, etc.; instrument maker; interpreter, European languages; interne (Freedman's Hospital); lapidist, Geological Survey; librarian (departmental); lithographers, pressmen, engravers, etc.; map colorer; mechanical engineer; microscopist; music teacher, India Service; nautical expert; National Museum, scientific positions, etc.; ornithologist; pharmacist; photographer; pomologist; pattern maker; Revenue-Cutter Service; road expert; safe and lock expert; scientific assistant, Fish Commission; shipping commissioner; special agent, Land Office; special employees; special agent, Treasury Department, etc.; soil physicist; square-letter engraver; statistical agent; telegrapher; telegrapher; telephone operator; timber agent, etc.; tracer; vault, safe, and lock expert; verifier of weights and measures; vegetable pathologist; wood engraver, and many other positions.

Sec. 2. An applicant should first decide what kind of examination he desires to take. A full description of the various kinds of examinations which may be taken on schedule dates and some which can be taken only when vacancies occur will be found, commencing at sec. 49. When an applicant has decided what kind or kinds of examinations he wishes to take, he should see that the proper application blank for the examination desired have been sent him (see sec. 10), and, in answer to question 1 in the application blank, should write the name of the service and the exact title of the examination desired.

Sec. 3. An applicant can take only one kind of examination (i. e., the basis of one auxiliary examination) at one time and place, except that he may take clerk typewriting and stenography, or several modern languages on one schedule date.

Sec. 4. Applications for the regular scheduled examinations may be filed at any time, but unless received at the Commission at least ten days prior to the date selected for the examination they will not be accepted for that examination, but will be approved and admission cards sent for the next examination of the kind to be held at the place selected. An applicant, by requesting the Commission and returning his admission card with the request, may select a different date and place named in the schedule for that particular kind of examination, provided the request is received by the Commission at least ten days prior to the date selected. When an application is approved and the applicant given opportunity to be examined in one semiannual series of examinations, that application will not be good for the next semiannual series. Applications for examinations to be held only when vacancies occur will not be received until such examinations are announced.

Sec. 5. Applicants are cautioned to file their applications a considerable time in advance of the ten-day limit, as many applications have to be returned for correction.

Sec. 6. Persons taking the typewriting examination must provide themselves with typewriting machines and stands or tables; those taking the bookkeeper, draft man, or other examinations requiring the use of instruments, must furnish the instruments required. Applicants must provide themselves with pens, penholders, pencil erasers, ink, and blotters. Applicants should not bring any paper for use in the examination room, except for taking notes in the stenography examination, as blue paper will be furnished to all applicants in connection with the examination sheet.

Each applicant must present his admission card in order to be admitted to the examination.

REEXAMINATIONS AND UNUSED APPLICATIONS.

Sec. 7. Persons who are examined, whether they pass or fail, are not eligible for reexamination for the same position until the expiration of one year from the date of the former examination: *Provided*, That persons who pass or fail in an examination may, upon filing a new application, be reexamined at the next annual examinations, though a full year has not quite elapsed since the former examination (See sec. 38.)

When an application is approved and the applicant is given opportunity to be examined at one semiannual series of examinations, that application will not be good for the next semiannual series.

THE DISTRICT OF COLUMBIA.

Sec. 8 Applications will not be accepted from legal residents of the District of Columbia for the clerk, messenger, stenography, typewriting, and watchman examinations for positions in the Departmental Service at Washington, D. C., unless such applicants are allowed preference under section 1754, R. S. This does not apply to the post-office, custom-house, and internal-revenue services.

ED IN THE ORDER OF

Custom-House, and Intern

as printed schedule.

examination. (See "Cauti

88).

see sec. 117).

or female) (see secs. 101, 140).

ken on the dates specified.

as specified.

ING APRIL 11:

(see sec. 83).

145, 146).

8, 144).

152).

- AL { (B). Beatrice, Apr. 5.
(A). Grand Island, Apr. 19
- AR { (C). Omaha, Apr. 5.
(E). Omaha, Apr. 6.
(D). Omaha, Apr. 11.
- AR { (A). Reno, Apr. 3.
(D). Reno, Apr. 11.
- AR { (A). Concord, Apr. 3.
(D). Concord, Apr. 11.
- AR { (A). Trenton, Mar. 20.
- AR { (A). Albuquerque, Apr. 19.
(D). Albuquerque, Apr. 11.
- CA { (A). Albany, Apr. 12.
(D). Albany, Apr. 11.
(A). Binghamton, Apr. 17.
(B). Buffalo, Mar. 22.
(C). New York, Mar. 22.
(E). New York, Mar. 23.
(D). New York, Apr. 11.
(C). Rochester, Apr. 14.
- CO { (E). Rochester, Apr. 15.
(D). Rochester, Apr. 11.
(B). Utica, Mar. 22.
- CO { (B). Asheville, Mar. 17.
(B). Greensboro, Mar. 17.
- CO { (A). Raleigh, Mar. 17.
- DE { (A). Wilmington, Mar. 20.
(D). Wilmington, Apr. 11.
- DISTRICT OF COLUMBIA { (A). Bismarck, Mar. 29.
(A). Fargo, Mar. 27.
(D). Fargo, Apr. 11.
(B). Grand Forks, Mar. 27.
(C). Cincinnati, Mar. 15.
(E). Cincinnati, Mar. 16.
(D). Cincinnati, Apr. 11.
(C). Cleveland, Mar. 17.
(E). Cleveland, Mar. 18.
(D). Cleveland, Apr. 11.
(C). Columbus, Apr. 19.
(E). Columbus, Apr. 20.
(B). Ironton, Apr. 19.

The following is the schedule of semi
is also omitted from this page the list of

Applicants may be examined at scho

Applicants should use the utmost ca

All applications must be on file in c

In selecting places and dates for ex

EXPLANATION:

(A) At all places marked "(A)" the fo

Apprentice (see sec. 86).

Assistant custodian (see sec. 163).

Bookbinder (see sec. 134).

Clerk, Departmental Service (see sec. 73).

(B) At all places marked "(B)" (the j

(C) At all places marked "(C)" all of

(D) At all places marked "(D)," AND

Aid, Coast and Geode

Architectural drafts

Assistant, Departme

Assistant examiner, I

Assistant microscopi

Assistant ship drafts

Assistant topographe

Bookkeeper (see sec.

Copyist ship drafts

Engineer (first-class s

Farmer (see sec. 121).

Fish-culturist (see se

Hospital steward (see

(E) At all places marked "(E)" the rail

Date.	Rot
Mar. 15, Wednesday	(A) Wilming
Mar. 16, Thursday	
Mar. 17, Friday	(C) Philadel
Mar. 18, Saturday	(E) Philadel
Mar. 20, Monday	(A) Trenton,
Mar. 21, Tuesday	
Mar. 22, Wednesday	(C) New Yorl
Mar. 23, Thursday	(E) New Yorl
Mar. 24, Friday	(A) Hartford
Mar. 25, Saturday	
Mar. 27, Monday	(A) Worceste
Mar. 29, Wednesday	(A) Providen
Mar. 30, Thursday	
Mar. 31, Friday	(C) Boston, M
Apr. 1, Saturday	(E) Boston, M
Apr. 3, Monday	(A) Concord,
Apr. 4, Tuesday	
Apr. 5, Wednesday	(A) Portland,
Apr. 6, Thursday	
Apr. 7, Friday	(A) St. Johns
Apr. 8, Saturday	
Apr. 10, Monday	(A) Burlingt
Apr. 12, Wednesday	(A) Albany, M
Apr. 14, Friday	(C) Rocheste
Apr. 15, Saturday	(E) Rocheste
Apr. 17, Monday	(A) Bingham
Apr. 19, Wednesday	(A) Harrisbu
Apr. 20, Thursday	
Apr. 21, Friday	(A) Baltimore

Apr. 11..... At the follow

(D) All

(D) All

(D) At

(D) Bo

(D) Bo

(D) Bu

(D) Ch

(D) Ch

b. (See reverse side.)

information concerning these examinations see sections 182 to 186. There is."

r (see sec. 107).

r and typewriter (see sec. 108).

see sec. 141).

Tagger (see sec. 111).

Typewriter (see sec. 114).

Watchman (see sec. 115).

(B) may be taken on the dates specified.

Physician, (see sec. 127).

Proof reading (see sec. 97).

Register and receiver's clerk (see sec. 168).

Stenographer (see sec. 128).

Senior architectural draftsman (see sec. 76).

Ship draftsman (see sec. 75).

Special pension examiner (see sec. 103).

Stock examiner (see sec. 109).

Superintendent of construction (see sec. 110).

Surveyor-General's clerk (see sec. 169).

Teacher (see sec. 131).

Topographic draftsman (see sec. 113, 170).

Trained nurse (see sec. 132).

(B) Miscellaneous.		Date.
[All examinations named above under (A), except stenography and typewriting, may be taken at the cities named in this column, on the dates specified.]		
		Mar. 15
		Mar. 16
	(B) Asheville, N. C.; (B) Greensboro, N. C.	Mar. 17
		Mar. 18
	(B) Moberly, Mo.; (B) Manistee, Mich.; (B) Marquette, Mich.	Mar. 20
	(B) Saginaw (East Side), Mich.	Mar. 21
	(B) Utica, N. Y.; (B) Warren, Pa.; (B) Buffalo, N. Y.	Mar. 22
		Mar. 23
	(B) La Crosse, Wis.; (B) Salina, Kans.	Mar. 24
		Mar. 25
	(B) Grand Forks, N. Dak.; (B) Parsons, Kans.	Mar. 27
Colo.	(B) Mankato, Minn.	Mar. 29
		Mar. 30
ah.	(B) Waco, Tex.; (B) Aberdeen, S. Dak.; (B) Sioux Falls, S. Dak.	Mar. 31
		Apr. 1
	(B) Laredo, Tex.; (B) Great Falls, Butte, Mont.	Apr. 3
		Apr. 4
	(B) Eureka, Cal.; (B) Bangor, Me.; (B) Beatrice, Nebr.	Apr. 5
		Apr. 6
	(B) Texarkana, Ark.; (B) New Whatcom, Wash.	Apr. 7
		Apr. 8
	(B) Fort Smith, Ark.; (B) Mason City, Iowa.	Apr. 10
	(B) San Diego, Cal.; (B) Santa Barbara, Cal.	Apr. 12
		Apr. 14
		Apr. 15
	(B) Cairo, Ill.	Apr. 17
ex.	(B) Laramie, Wyo.; (B) Scranton, Pa.; (B) Ironton, Ohio.	Apr. 19
		Apr. 20
	(B) Pueblo, Colo.; (B) Charleston, W. Va.; (B) Bristol, Tenn.	Apr. 21
		Apr. 11
W. Va.	(D) Pueblo, Colo.	(D) Seattle, Wash.
	(D) Reno, Nev.	(D) Sioux Falls, S. Dak.
, Pa.	(D) Richmond, Va.	(D) St. Louis, Mo.
z.	(D) Rochester, N. Y.	(D) Vicksburg, Miss.
.	(D) Salina, Kans.	(D) Washington, D. C.
.	(D) Salt Lake City, Utah.	(D) Wichita, Kans.
g.	San Antonio, Tex.	(D) Wilmington, N. C.
3. I	San Francisco, Cal.	

IN THE ORDER OF STATE

House, and Internal-Revenue se
nted schedule.
ination. (See "Caution," pag

ec. 117).
male) (see secs. 101, 140).
Stenogr
Stenogr
Stereot

ken on the dates specified.
s specified.

ING OCTOBER 10:

The following is the schedule of
There is also omitted from this pag
Applicants may be examined a
Applicants should use the utmo
All applications must be on fil
In selecting places and dates f

EXPLANATION:

- (A) At all places marked "(A)"
Apprentice (see sec. 66).
Assistant custodian (see sec. 163).
Bookbinder (see sec. 134).
Clerk, Departmental Service (see)
- (B) At all places marked "(B)"
- (C) At all places marked "(C)"
- (D) At all places marked "(D)"

Architectu
Assistant
Assistant
Assistant
Bookkeepe
Copyist sh
Engineer (s
Farmer (se
Fish-cultu
Hospital a
Industrial

(E) At all places marked "(E)"

- ALABAMA: Beatrice, Oct. 4.
Grand Island, Oct. 18.
- ARIZONA: Omaha, Oct. 4.
Omaha, Oct. 5.
- ARKANSAS: Omaha, Oct. 10.
Reno, Oct. 2.
Reno, Oct. 10.
- ARIZONA: Concord, Oct. 2.
Concord, Oct. 10.
Trenton, Sept. 18.
- CALIFORNIA: Albuquerque, Oct. 18.
Albuquerque, Oct. 10.
Albany, Oct. 11.
Albany, Oct. 10.
Binghamton, Oct. 16.
Buffalo, Sept. 20.
New York, Sept. 20.
New York, Sept. 21.
New York, Oct. 10.
Rochester, Oct. 13.
Rochester, Oct. 14.
Rochester, Oct. 10.
Utica, Sept. 20.
- COLORADO: Asheville, Sept. 15.
Greensboro, Sept. 15.
- CONNECTICUT: Raleigh, Sept. 15.
Wilmington, Sept. 18.
Wilmington, Oct. 10.
- DELAWARE: Bismarck, Sept. 27.
Fargo, Sept. 25.
Fargo, Oct. 10.
Grand Forks, Sept. 25.
- DISTRICT OF COLUMBIA (Washington): Cincinnati, Sept. 13.
Cincinnati, Sept. 14.
Cincinnati, Oct. 10.
Cleveland, Sept. 15.
Cleveland, Sept. 16.
Cleveland, Oct. 10.
Columbus, Oct. 18.
Columbus, Oct. 19.
Ironton, Oct. 18.

Of
Of
Pr
Ri
Sc
Sc
T

Date.	
Sept. 13, Wednesday	(A) Wilmd
Sept. 14, Thursday	
Sept. 15, Friday	(C) Phila
Sept. 16, Saturday	(E) Phila
Sept. 18, Monday	(A) Trent
Sept. 19, Tuesday	
Sept. 20, Wednesday	(C) New
Sept. 21, Thursday	(E) New
Sept. 22, Friday	(A) Har
Sept. 23, Saturday	
Sept. 25, Monday	(A) Wor
Sept. 27, Wednesday	(A) Prov
Sept. 28, Thursday	
Sept. 29, Friday	(C) Bost
Sept. 30, Saturday	(E) Bost
Oct. 2, Monday	(A) Con
Oct. 3, Tuesday	
Oct. 4, Wednesday	(A) Port
Oct. 5, Thursday	
Oct. 6, Friday	(A) St. J
Oct. 7, Saturday	
Oct. 9, Monday	(A) Burl
Oct. 11, Wednesday	(A) Alba
Oct. 13, Friday	(C) Roch
Oct. 14, Saturday	(E) Roch
Oct. 16, Monday	(A) Bing
Oct. 18, Wednesday	(A) Har
Oct. 19, Thursday	
Oct. 20, Friday	(A) Balt

Oct. 10	At the fo
	(D)e
	(D)it
	(D)u
	(D)n
	(D)h
	(D)ls
	(D)la
	(D)ic

See reverse side.)

for information concerning these examinations see sections 182 to 186.

Stenographer (see sec. 107).
Stenographer and typewriter (see sec. 108).
Stenotypist (see sec. 141).

Tagger (see sec. 111).
Typewriter (see sec. 114).
Watchman (see sec. 115).

NG, may be taken on the dates specified.

Register and receiver's clerk (see sec. 168).
Seamstress (see sec. 128).
Senior architectural draftsman (see sec. 76).
Ship draftsman (see sec. 75).
Stock examiner (see sec. 109).
Superintendent of construction (see sec. 110).
Surveyor-General's clerk (see sec. 169).
Teacher (see sec. 131).
Topographic draftsman (see secs. 113, 170).
Trained nurse (see sec. 132).

(B) Miscellaneous.		Date.
[All examinations named above under (A), except stenography and typewriting, may be taken at the cities named in this column on the dates specified.]		
		Sept. 13
		Sept. 14
(B) Asheville, N. C.; (B) Greensboro, N. C.		Sept. 15
		Sept. 16
(B) Moberly, Mo.; (B) Manistee, Mich.; (B) Marquette, Mich.		Sept. 18
(B) Saginaw (East Side), Mich.		Sept. 19
(B) Utica, N. Y.; (B) Warren, Pa.; (B) Buffalo, N. Y.		Sept. 20
		Sept. 21
(B) La Crosse, Wis.; (B) Salina, Kans.		Sept. 22
		Sept. 23
(B) Grand Forks, N. Dak.; (B) Parsons, Kans.		Sept. 25
(B) Mankato, Minn.		Sept. 27
		Sept. 28
(B) Waco, Tex.; (B) Aberdeen, S. Dak.; (B) Sioux Falls, S. Dak.		Sept. 29
		Sept. 30
(B) Laredo, Tex.; (B) Great Falls, Butte, Mont.		Oct. 2
		Oct. 3
(B) Eureka, Cal.; (B) Bangor, Me.; (B) Beatrice, Nebr.		Oct. 4
		Oct. 5
(B) Texarkana, Ark.; (B) New Whatcom, Wash.		Oct. 6
		Oct. 7
(B) Fort Smith, Ark.; (B) Mason City, Iowa		Oct. 9
(B) San Diego, Cal.; (B) Santa Barbara, Cal.		Oct. 11
		Oct. 13
		Oct. 14
(B) Cairo, Ill.		Oct. 16
(B) Laramie, Wyo.; (B) Scranton, Pa.; (B) Ironton, Ohio.		Oct. 18
		Oct. 19
(B) Pueblo, Colo.; (B) Charleston, W. Va.; (B) Bristol, Tenn.		Oct. 20
		Oct. 10
(B) Petersburg, W. Va.	(D) Pueblo, Colo.	(D) Seattle, Wash.
(B) Ill.	(D) Reno, Nev.	(D) Sioux Falls, S. Dak.
(B) Philadelphia, Pa.	(D) Richmond, Va.	(D) St. Louis, Mo.
(B) Phoenix, Ariz.	(D) Rochester, N. Y.	(D) Vicksburg, Miss.
(B) St. Paul, Pa.	(D) Salina, Kans.	(D) Washington, D. C.
(B) Portland, Me.	(D) Salt Lake City, Utah.	(D) Wichita, Kans.
(B) Portland, Oreg.	(D) San Antonio, Tex.	(D) Wilmington, N. C.
(B) St. Paul, Minn.	(D) San Francisco, Cal.	

APPLICATION BLANKS REQUIRED.

Sec. 10. Below will be found an alphabetical list of the examinations mentioned in this Manual, showing the form numbers of the application blanks which must be executed for the different examinations. The form numbers of the required blanks are in parentheses following the names of the examinations. Please note that the general application blank, Form 304, must be executed and filed for all examinations with very few exceptions, while supplementary statements on additional forms must be filed for technical, trades, and certain other positions. Each applicant should be careful to see that the proper blank or blanks have been sent for the examination desired; otherwise he should immediately request the Commission to forward the proper blank as shown by the list, stating the examination desired and the number of the blank wanted. Whenever more than one form of application blank is used, both forms should be pinned together and forwarded to the Commission in the same envelope. However, in case the applicant first receives only Form 304, that form should be immediately executed and forwarded, and the supplementary statements, if required, should be forwarded as soon as possible thereafter. (See sec. 33.)

Title of examinations and form numbers of application blanks required:

Acting assistant surgeon, M. H. S. (304 and 375).*	Master, light-house tender (304 and 394).*
Aid, Coast and Geodetic Survey (304 and 375).	Mate, light-house tender (304 and 394).*
Apprentice (304 and 1013).	Matron, Indian Service (304).
Assistant, Dept. of Agriculture (304 and 375).	Meat inspector (304 and 375).
Assistant custodian (304 and 394).	Mechanical trades (304 and 394).
Assistant custodian, janitor (1052).	Messenger (304).
Assistant engineer, Engineer Dept. (304 and 375).*	Messenger boy (304).
Assistant engineer, light-house tender (304 and 394).*	Model repairer (304 and 394).*
Assistant examiner (304 and 375).	Modern languages (304).
Assistant inspector boilers (1087).	Observer, Weather Bureau (304).
Assistant inspector of hulls (1087).	Pension examining surgeon (304 and 375).*
Assistant keeper and keeper of light-houses and light-ships (1025).	Physician (304 and 375).
Assistant microscopist (304).	Post-office inspector (304).*
Assistant topographer (304 and 375).	Pressman (304 and 394).
Attendant, Government Insane Hospital (1059).	Printer's assistant, Bureau Engraving and Printing (304).
Bookkeeper (304).	Proof reading (304).
Bookbinder (304 and 394).	Pupil nurse (304).
Cadet, Revenue Cutter Service (304).*	Railway mail clerk (304).
Chinese inspectors (304).*	Sanitary inspector, M. H. S. (304 and 375).*
Classified laborer, Government Hospital for the Insane), (1029).	Seamstress, Indian Service (304).
Clerk (304).	Shipping commissioner (304).*
Composer (304 and 394).	Skilled laborer (304).
Computer, Supervising Architect's Office (304 and 375).	Special agent, Treasury Department (304).*
Day school inspector (304 and 375).*	Special employees, Treasury Department (304).*
Disciplinarian, Indian Service (304 and 375).*	Special inspectors (304).*
Draftsman, all kinds (304 and 375).	Special pension examiner (304 and 375).
Dynamo tender, custodian, (1052).*	State Department clerk (304).*
Electrotype finisher (304 and 394).	Station superintendent, Fish Commission (304).*
Electrotype molder (304 and 394).	Statistical field agent, Fish Commission (304).*
Elevator conductor, departmental (304 and 394).	Steam engineer, departmental service (304 and 394).
Elevator conductor, custodian service (1052).	Steam engineer, first class, custodian service (304 and 394).
Engineer, light-house tender (304 and 394).*	Steam engineer, second and third classes, custodian service (1052).
Farmer, Indian Service (304 and 394).	Stenography (304).
Fireman, departmental (304 and 394).	Stenography and typewriting (304).
Fireman, custodian service (1052).	Stereotyper (304 and 394).
Fish-culturist (304).	Stock examiner (304).
Fourth grade—trades (304 and 394).	Superintendent, Engineer Dept. (304 and 375).*
Fur seal island agents (304).*	Superintendent of construction (304 and 375).
Guard, United States penitentiary (304 and 1036).	Supervisor of Indian schools (304 and 375).*
Hospital steward, M. H. S. (304 and 375).	Surfman (395).
Immigrant inspector (304).*	Tagger (304).
Industrial teacher (304 and 394).	Teacher, all kinds except industrial, Indian Service (304 and 375).
Inspector of boilers (1087).	Teacher, industrial (304 and 394).
Inspector of hulls (1087).	Telegrapher (304 and 394).*
Janitor, custodian service (1052).	Tracer (304 and 375).*
Junior civil engineer (304 and 375).	Trades (304 and 394).
Keeper and assistant keeper of light-houses or light-ships (1025).	Trained nurse, Indian Service (304 and 375).
Land Office examinations (304, except topographic draftsman which requires both 304 and 375).	Typewriting (304).
Law clerk (304 and 375).	Watchman, custodian (1052).
Map printer (304 and 394).*	Watchman, departmental (304).
Marine engineer, M. H. S. (304 and 394).	Wireman custodian (1052).

* Examinations marked thus * will not be held until vacancies occur or until the needs of the service require that registers be established, and applications will not be received for such examinations until they are announced.

IMPORTANT.

SEC. 11. Owing to the large amount of work now devolving upon the Commission, it frequently happens that admission cards for examination can not be mailed until a few days prior to the examination, and that examination papers can not be marked until from two to four months after the examination. Notices of standing will always be mailed as soon as the averaging of the papers can be completed. Applicants and competitors will please remember these facts and refrain from writing letters of inquiry unless absolutely necessary. Such letters only increase the Commission's work and thereby lengthen the time which must elapse before the application or examination papers can be disposed of.

In case it is necessary to make inquiry, however, the reply will be mailed more promptly if you will copy the form below for your letter, filling in the appropriate blank spaces and making the necessary inquiry under the proper heading. Confine your inquiry to one subject. Write directly to the Commission instead of some presumably influential person.

Do not send stamps to the Commission, as its replies do not require postage.

Date: _____ 189

UNITED STATES CIVIL SERVICE COMMISSION,
Washington, D. C.

Legal residence of applicant, _____

Exact title of examination, _____

Application number (if known), _____

Examination number (if known), _____

City in which examined, or to be examined, _____

Date of examination, _____

Date application mailed to Commission, _____

Average attained (if already examined), _____

INQUIRY OR REQUEST:

Signature: _____
(Make signature identical with that used in application.)

Post-office address: _____, _____, No. _____ S
(City) (State)

EXTENT OF THE CLASSIFIED CIVIL SERVICE.

Sec. 12. All that part of the executive civil service of the United States which has been or may hereafter be classified under the civil-service act shall be arranged in branches as follows: The Departmental Service, the Custom-House Service, the Post-Office Service, the Government Printing Service, and the Internal-Revenue Service.

Sec. 13. The Departmental Service shall include officers and employees as follows, except those in the service of the Government Printing Office and in the service of the several custom-houses, post-offices, and internal-revenue districts:

(a) All officers and employees of whatever designation, except persons merely employed as laborers or workmen and persons who have been nominated for confirmation by the Senate, however or for whatever purpose employed, whether compensated by a fixed salary or otherwise, who are serving in, or on detail from—

The several Executive Departments, the commissions, and offices in the District of Columbia.

The Railway Mail Service.

The Indian Service.

The several pension agencies.

The Steamboat-Inspection Service.

The Marine-Hospital Service.

The Light-House Service.

The Life-Saving Service.

The several mints and assay offices.

The Revenue-Cutter Service.

The force employed under custodians of public buildings.

The several subtreasuries.

The Engineer Department at large.

The Ordnance Department at large.

The force employed under the Architect of the Capitol.

(b) All executive officers and employees outside of the District of Columbia not covered in (a), of whatever designation, except persons merely employed as laborers or workmen and persons whose appointments are subject to confirmation by the Senate, whether compensated by a fixed salary or otherwise—

Who are serving in a clerical capacity, or whose duties are in whole or in part of a clerical nature.

Who are serving in the capacity of watchman or messenger.

Who are serving in the capacity of physician, hospital steward, nurse, or whose duties are of a medical nature.

Who are serving in the capacity of draftsman, civil engineer, steam engineer, electrical engineer, computer, or fireman.

Who are in the service of the Supervising Architect's Office in the capacity of superintendent of construction, superintendent of repair, or foreman.

Who are in the service of the Treasury Department in any capacity.

Who are employed in the Department of Justice under the annual appropriation for the investigation of official acts, records, and accounts of officers of the courts.

Sec. 14. The Custom-House Service includes all officers and employees who have been, or may hereafter be, classified, who are serving in any customs district.

Sec. 15. The Post-Office Service includes all officers and employees who have been, or may hereafter be, classified, who are serving in any free-delivery post-office.

Sec. 16. The Government Printing Service includes all positions in the Government Printing Office except those of Public Printer and *unskilled* laborers or workmen.

Sec. 17. The Internal-Revenue Service includes all officers and employees in any internal-revenue district who have been, or may hereafter be, classified under the civil-service act.

METHOD OF FILLING VACANCIES IN THE CLASSIFIED SERVICE.

The entire classified service may be divided into three classes, with reference to the provision made for filling vacancies (see also secs. 24-26):

Sec. 18. The first class includes those positions for which registers of eligibles are constantly maintained. For this class examinations are ordinarily held twice a year, on the regular schedule dates. A list of the examinations which may be taken on those dates may be found in sec. 9 of this Manual. Applications for these examinations should be made on the "application blank," which is mailed with every Manual, (see sec. 10).

Sec. 19. The second class includes positions in which vacancies occur less frequently, and for which no registers of eligibles are ordinarily maintained. Examinations for these positions are held only when vacancies occur. It is the practice of the Commission to announce such examinations through the newspapers as items of news. The announcement is made at least thirty days before the date of the examination, unless a necessity exists for filling the vacancy in less time, in which case a notice of not more than two or three weeks is sometimes given. No complete list of such positions can be furnished, as it is impossible to predict in what positions vacancies may occur; neither can any information be given here as to the character of the examinations required for such positions, because in these cases the examination must be adapted to the nature of the work required, and no general scheme of examination would apply to particular positions. In order that applicants may be informed of such vacancies, a blank form, No. 376, entitled "Application for information," will be furnished by the Commission upon request. Applicants are required to state in such application for information for what position they desire to apply in case a vacancy occurs. These applications for information are kept on file for one year, unless an examination is held sooner for the position named in the request, in which event the applicant is informed of the date, and is given such other information in regard to the character of the examination as is found practicable.

Sec. 20. The third class includes all of those positions in the classified service in which vacancies are regularly filled by transfer, promotion, or reinstatement, and not by appointment of persons outside of the service. No list of such positions can be furnished. It is becoming more and more the practice of the departments to fill the higher grade positions, such as chiefs of division, etc., by promotion or transfer instead of by original appointment. Inquiries in reference to transfers, reinstatements, or promotions should be addressed to the head of the department in which transfer, reinstatement, or promotion is sought.

Sec. 21. From the foregoing statements it will be seen that the only positions for which applications for examination on schedule dates can be accepted are those which are indicated in the Manual as schedule examinations. All other places must be treated in the manner described in the second and third classes above, for which applications for information on Form 376 should be filed. The foregoing remarks, however, do not apply to examinations for the Custom-House, Post-Office, or Internal-Revenue Services. For information in regard to these three branches of the service, see secs. 182 to 186.

POSITIONS WHICH MAY BE FILLED WITHOUT EXAMINATION.

Sec. 22. Some of the positions indicated below are excepted from examination and others are excluded from the classified service, and the Commission has nothing to do with filling vacancies in them; hence it is useless to write to the Commission to know how to obtain such places. Letters seeking information in regard to them should be addressed to the head of the department to which the position is attached.

(a) Any position filled by a person whose place of private business is conveniently located for his performance of the duties of said position, or any position filled by a person remunerated in one sum both for services rendered therein and for necessary rent, fuel, and lights furnished for the performance of the duties thereof: *Provided*, That in either case the performance of the duties of said position requires only a portion of the time and attention of the occupant, paying him a compensation not exceeding, for his personal salary only, \$300 per annum, and permitting of his pursuing other regular business or occupation.

(b) Any person in the military or naval service of the United States who is detailed for the performance of civil duties.

(c) Any person employed in a foreign country, under the State Department, or temporarily employed in a confidential capacity in a foreign country.

(d) Any position whose duties are of quasi-military or quasi-naval character and for the performance of whose duties a person is enlisted for a term of years.

(e) Private secretaries or confidential clerks (not exceeding two) to the President or to the head of each of the eight Executive Departments.

(f) Indians employed in the Indian service at large, except those employed as superintendents, teachers, teachers of industries, kindergartners, and physicians.

(g) Attorneys or assistant attorneys in any department whose main duties are connected with the management of cases in court.

(h) One assistant postmaster, or chief assistant to the postmaster, of whatever designation, at each post-office.

(i) One cashier of each first-class post-office when employed under the roster title of cashier only.

EXCEPTED POSITIONS FILLED BY NONCOMPETITIVE EXAMINATION AFTER NOMINATION.

Sec. 23. These examinations are not held on schedule dates, but are held on the official request of the head of the department in which the vacancy occurs.

Appointments to the excepted positions named below, in the custom-house service and in the internal-revenue service, are subject to an examination to be prescribed by the Secretary of the Treasury, not disapproved by the Commission, equal to the examination held by the Commission for positions of like grade. Such examinations are conducted by the Commission in accordance with its regulations:

CUSTOM-HOUSE SERVICE:

(a) One cashier in each customs district.

(b) One chief or principal deputy or assistant collector in each customs district.

(c) One principal deputy collector at each subport or station.

INTERNAL-REVENUE SERVICE:

(a) One employee in each internal-revenue district, who shall act as cashier or chief deputy or assistant collector, as may be determined by the Treasury Department.

(b) One deputy collector in each internal-revenue district where the number of employees in the office of the collector exceeds four.

(c) One deputy collector in each stamp (or branch) office.

ELIGIBILITY AND APPOINTMENT.

Sec. 24. Inquiries addressed to the commission by persons who have taken examinations should be as concise as possible, and should contain a statement of their legal residence, the kind of examination, the place where taken, the date when taken, and, if known, the rating obtained. (See sec. 11.) The relative standing of persons on any particular register may be changed by the addition of names of persons with higher standings. The grade obtained, and not the date of the examination, determines the position of a name upon the register. Until requested to certify names for filling a vacancy, the commission has no information in regard to any vacancy which may exist. The civil-service rules require that when there is a vacancy to be filled, the commission shall certify from the proper register the names of the three persons having the highest general average on that register, and *from the three names* a selection shall be made to fill the vacancy. It is not mandatory that the highest name of the three be selected. An applicant is not permitted a choice respecting salary. (See secs. 42-44.)

Sec. 25. Except as indicated in this paragraph, it is not possible to estimate the prospects of an eligible for appointment, and attempts to predict when names might be reached for certification would be certain to result in disappointment. The law requires examinations to be held, but the passing of an examination does not insure either certification or appointment. The conditions of appointment in the various branches of the service are such, that nothing can help and nothing can hinder the certification of a name in the order of its standing on a register. As the highest possible mark is 100 and the lowest that gives eligibility is 70, it follows that the nearer a mark is to 100 the more likely it is that the person may be reached for certification within the period of eligibility. In this connection, however, see section 45, in reference to "preference claimants." There are usually on the registers more eligibles having ordinary qualifications than are required for appointment. Under the civil-service rules the appointing officers are the final judges of the qualifications of the persons selected for appointment, and with the proper exercise of their discretion in selecting from among those certified the Commission can not interfere. No eligible can be certified for appointment more than three times to the same department or office from the same examination.

Sec. 26. An eligible will upon proper request in person or by letter or by authorized representative be informed of his or her relative standing on the register, except on the assistant microscopist, observer, tagger, stock examiner, and meat inspector registers. A notice of standing, showing the average on each subject, will be sent to each person examined, whether such person passes or fails to pass, except as pro-

vided in section 61. The notice will be sent as soon as practicable after the papers are marked, but sometimes long delays in the marking are unavoidable. A duplicate notice will not be furnished. The period of eligibility on all registers is one year from the date of entering the name upon the register, which takes place after the completion of the marking of the papers and usually but a few days subsequent to the date of the notice of eligibility. An eligible who declines an appointment tendered will not be certified again unless such eligible shall request the benefit of the remaining certifications which the rules allow, stating reasons, which must be satisfactory to the Commission, for declining the appointment. All examination papers of the same kind are marked simultaneously, and the papers of no competitor will be marked out of order or be made special.

PERSONS WHO SHALL NOT BE EXAMINED.

Sec. 27. No person is eligible to an examination—

- (a) Who is not a citizen of the United States (see sec. 35, Regulation V);
- (b) Who is not within the age limitations prescribed for the examination for which he applies (see secs. 28-32);
- (c) Who is physically disqualified for the service which he seeks;
- (d) Who is addicted to the habitual use of intoxicating beverages to excess;
- (e) Who is barred by Application Regulations IX and X (see sec. 35);
- (f) Who is enlisted in the regular United States Army or Navy, and has not secured permission for his examination from the head of the department under which he is enlisted;
- (g) Who has been dismissed from the public service for delinquency or misconduct within one year preceding the date of his application;
- (h) Who has failed after probation to receive absolute appointment to the position for which he again applies within one year from the date of the expiration of his probationary service;
- (i) Who within one year has taken the same kind of examination for which he wishes to again apply: *Provided*, That persons who pass or fail in an examination may, upon filing a new application, be reexamined at the next annual examinations, though a full year has not quite elapsed since the former examination;
- (j) Who has made a false statement in his application, or has been guilty of fraud or deceit in any manner connected with his application or examination, or who has been guilty of crime or infamous or notoriously disgraceful conduct.

AGE LIMITS FOR THE CLASSIFIED CIVIL SERVICE.

Sec. 28. No application for examination shall be accepted unless the applicant is within the age limitations fixed herein for entrance to the position to which he seeks to be appointed: *Provided*, That, subject to the other conditions of these rules, the application of any person whose claim of preference under the provisions of section 1754 of the Revised Statutes has been allowed by the Commission may be accepted without regard to his age. (See sec. 45.) The age limitations for entrance to positions in the different branches of the service shall be as follows:

Departmental Branch:	Minimum.	Maximum.
Page, messenger boy, apprentice, or student.....	14	20
Printer's assistant.....	18	35
Messenger and other positions	18	No limit.
Positions in the Railway Mail Service.....	18	35
Hospital stewards in the Marine Hospital Service.....	21	30
Cadet in the Revenue-Cutter Service, and aid in the Coast and Geodetic Survey.....	18	25
Surfman in the Life-Saving Service.....	18	45
Superintendent, physician, supervisor, day-school inspector, and disciplinarian in the Indian Service; inspector and assistant inspector of hulls, and inspector and assistant inspector of boilers in the Steamboat-Inspection Service.....	25	55
All other positions, unless otherwise specified by departmental regulation (including bookkeepers, clerks, fish-culturists, observers, proof readers, stenographers, typewriters, meat inspectors, tanners, stock examiners, male attendants Government Hospital for the Insane, etc.).	20	No limit.
(The age limitations shall not apply in the case of the wife of the superintendent of an Indian school who applies for examination for the position of teacher or matron.)		
Sec. 29. Custom-House Branch:		
All positions.....	20	No limit.
Sec. 30. Post-Office Branch:		
Letter carrier.....	21	40
All other positions.....	18	No limit.
Sec. 31. Government Printing Branch:		
All positions (male).....	21	No limit.
All positions (female).....	18	No limit.
Sec. 32. Internal Revenue Branch:		
All positions.....	21	No limit.

METHOD OF SECURING AND FILLING OUT APPLICATION BLANKS.

Sec. 33. No person will be admitted to a regular schedule examination who has not previously filed the proper application for the particular examination which he seeks, on the form which will be furnished by the Commission upon request of the applicant. In some examinations a supplementary blank will be required in addition to the regular application blank, and such supplementary blank must be executed and forwarded to the Commission. (See sec. 10.)

The application blank and Manual for the departmental and Government printing branches of the classified service may be obtained by writing directly to the "United States Civil Service Commission, Washington, D. C." Each applicant must, however, write for his own application blank, as it is contrary to the practice of the Commission to forward blanks to one person for the use of another.

There is no need of seeking the aid of any prominent or presumably influential person to secure an application blank or an examination (see sec. 34), and no recommendations other than those provided for in the application blank should be forwarded to the Commission, as the rules forbid the filing of any such letters with the application.

Full instructions for the execution of the application will be found on the blank itself, and applicants are cautioned to answer all questions and conform in all respects to the printed instructions. (See page 4 and sec. 35.) A failure to do this causes unnecessary delays and great annoyance to the applicant as well as to the Commission. Very many applications have to be returned for correction on account of carelessness in the execution of either the application or vouchers. (See also sec. 10.)

BUREAUS AND INDIVIDUALS ADVERTISING SPECIAL INFORMATION FOR APPLICANTS.

Sec. 34. The Commission frequently receives letters from different parts of the country inclosing advertisements of individuals and bureaus claiming to have special information of value to applicants and special facilities in preparing them for civil-service examinations. The writers of these letters inquire whether, in the opinion of the Commission, the claims of these individuals and bureaus are genuine or not. Attention is called to the fact that the Manual of instructions and the schedule of examinations, which are furnished to every applicant upon request, contain all the information about the times and places of examinations, the method of marking papers, certifying eligibles, and the prospect of securing appointments, and they also contain specimen questions of examinations. No person has any information of importance to applicants concerning examinations which can not be obtained without cost from this Manual or by request to the Commission. All claims to the contrary are therefore misrepresentations.

This Manual is intended to furnish all the information which applicants will need concerning the classified civil service. These instructions should be carefully read, as they answer most of the questions which applicants ask in their letters of inquiry, and if carefully studied will save much needless correspondence. Letters in regard to examinations and other business of this Commission should not be addressed to Members of Congress or other persons not connected with the Commission, as this only causes delay and does not in any way assist the applicant. Such communications should be addressed directly to the United States Civil Service Commission, Washington, D. C. (See sec. 11.)

Sec. 35. APPLICATION REGULATIONS.

Applicants should read the following regulations governing the approval of applications, because they contain important information about the requirements.

I. Time limits for filing: Applications for the regular scheduled examination may be filed at any time, but unless received at the Commission at least ten days prior to the date selected for the examination they will not be accepted for that examination, but will be approved and admission cards sent for the next examination of the kind to be held at the place selected. An applicant, by requesting the Commission and returning his admission card with the request, may select a different place and date named in the schedule for that particular kind of examination, provided the request is received by the Commission at least ten days prior to the date selected. When an application is approved and the applicant given opportunity to be examined at one semiannual series of examination, that application will not be good for the next semiannual series. An application will not be approved which is dated or the

vouchers of which are dated more than six months prior to its receipt by the Commission. Applications for examinations to be held only when vacancies occur will not be received until such examinations are announced.

II. Applications not accepted on day of examination: No person shall be admitted to a regular schedule examination whose application has not been previously filed with the Commission and approved in accordance with Regulation I. Examiners are prohibited from accepting applications on the day of examination and from admitting persons who have not complied with the requirements and procured admission cards or other proper authority in advance.

III. Application to be executed in ink: Every question in the application must be fully answered. All writing in the applications, vouchers, and certificates must be in ink, and in the handwriting of the signer. Applicants for trades examinations requiring no scholastic tests may sign their applications by mark, if unable to write.

IV. Name to be uniform: In all places in the application, vouchers, and certificates the initials and surname of the applicant must be correctly given and must be uniform or consistent throughout the application. Women must prefix the title Miss or Mrs. The post-office address must be in the handwriting of the applicant, and will be changed only upon the written order of the applicant, which order, when received, will be filed with the application.

V. Citizenship: All applicants must make oath in their application to their United States citizenship. In the case of foreign-born citizens, proof of citizenship must be furnished. If naturalized, the certificate of naturalization must accompany the application. A foreign-born person who claims that his parents were citizens of the United States at the time of his birth must furnish the sworn statements of at least two disinterested persons to prove that to their knowledge his parents were United States citizens at the time of the applicant's birth, and that they did not previously, then, or at any subsequent time renounce, or legally declare their intention of renouncing, their United States citizenship, and also that the applicant is the reputed child of the person through whom he claims citizenship. A foreign-born citizen who was naturalized by the naturalization of his father or his mother while he was a minor must furnish the parent's certificate of naturalization and the sworn statements of two disinterested persons to prove his identity as the child of the one whose certificate is furnished. A woman who claims naturalization through marriage to a citizen of the United States must furnish evidence of the husband's citizenship (his certificate being required if he is a naturalized citizen) and evidence of her marriage to him.

An application from a foreign-born person claiming citizenship, but failing to furnish the required proof, will be canceled. A declaration of intention to become a citizen will not be accepted in lieu of a certificate of naturalization. When naturalization papers are lost, certificate must be procured from the court that issued the naturalization papers, showing the facts in the case.

VI. Jurat; legal residence: Every applicant must personally appear and make oath to the statements in his application before an officer who is authorized to administer oaths for general purposes, and the officer's signature must be authenticated by his official impression seal. If the officer has no official seal, he must obtain a certificate of his authority from the proper officer who has the custody of an official seal, which certificate must be attached to the paper.

Every applicant must make oath in his application to the place of his legal residence, which must be shown continuously to the exact date of application, and which must be corroborated by the vouchers required on his application paper. Legal residence does not require continuous bodily presence, but refers to the place at which the applicant, if a voter, is legally entitled to exercise the right of suffrage. Applications for examinations for positions in the departments at Washington, subject to the apportionment law, must show that the applicant has been a legal resident of the county in which he claims legal residence for not less than six months next preceding the date of his application. A married woman not separated from her husband can have no other legal residence than that of her husband. A woman who is separated from her husband and claims a separate legal residence must, if divorced, furnish a certified copy of the decree of divorce, and, if not legally divorced, she must furnish sworn evidence of the facts on which her right to a separate legal residence is based. The Commission will decide in each case whether the evidence presented establishes the claim. The legal residence of minors is the same as that of the parents or guardian.

VII. Observance of age limits: No application shall be approved if the applicant is under the minimum age required for the examination which he seeks, or if he is past the maximum age limitation, on the date of the examination.

VIII. Crime, persons indicted for: Persons who have been indicted for, or convicted of, any crime must inclose with their applications a certified copy of the court proceedings showing the essential facts of the case.

IX. Applicant for or eligible in only one branch of the service: No person shall be an applicant or an eligible for more than one branch of the service at the same time; but an applicant or an eligible for one branch of the service who desires to compete for another branch of the service may, upon his written request, have his application or eligibility canceled for the purpose of enabling him to file another application: *Provided*, That the restrictions of this provision shall not apply in cases of examinations for positions which require the exercise of peculiar professional or technical skill, and for which consequently it is desirable that all persons possessing the necessary qualifications should compete.

X. Reexamination: A person who takes an examination is not eligible to the same kind of examination for one year from the date of his previous examination; and no application shall be accepted which shows the applicant to be in this respect ineligible: *Provided*, That persons who pass or fail in an examination may, upon filing a new application, be reexamined at the next annual examinations, though a full year has not quite elapsed since the former examination. (See sec. 38.)

XI. Delinquency or misconduct: A person who has been separated from any branch of the service for delinquency or misconduct within one year next preceding the date of the examination selected is ineligible, and applications from such persons will be canceled. A person who fails to receive absolute appointment, after probation, to the grade for which he again applies is ineligible for reexamination for one year from the expiration of his probationary service.

XII. Vouchers: Vouchers Nos. 1 and 2 (application blank, Form 304) must be executed by citizens of the United States who answer the following requirements:

They must each be at least 21 years of age.

They must be both legal and actual bodily residents of the State in which the applicant claims legal residence.

They must have known the applicant for at least six months.

Neither of them should be the same person as the one who signs the officer's certificate or the physician's certificate.

The certificate of an officer, showing the county of which the applicant is a legal resident, must be furnished by all applicants for departmental and Government printing examinations, and the signer of it must be an officer in the county in which the applicant claims legal residence, who has an official (impression) seal, or who furnishes the certificate of the proper officer showing that he is an officer in the county entitled to a seal. A notary public or other officer in the county may be accepted on this voucher.

Vouchers will not be accepted from the father, mother, sister, brother, son, daughter, husband, or wife of the applicant, and not more than one voucher will be accepted from a relative of a more remote degree of relationship.

Applicants for the trades examinations and applicants for positions requiring professional, scientific, or technical knowledge must file supplementary statements on blanks furnished for that purpose, or in form and manner to be prescribed.

XIII. Railway Mail Clerk; height and weight: No application for the Railway Mail Service shall be approved when the applicant is shown to be less than 5 feet 4 inches in height or less than 125 pounds in weight, or to have any disqualifying physical defects. (See sec. 117.)

XIV. Government Printing Service; previous experience: No application for any one of the mechanical trades in the Government Printing Office shall be approved unless the applicant is shown to have served at least five years at the trade for which he applies, three of which years he must have served as an apprentice and at least one year as a journeyman.

XV. Disposal of applications: All applications which are found to be correct in form will be approved, and admission cards will be mailed to the applicants. (See sec. 11.) All applications which show the applicants to be ineligible for the examinations which they seek, either on account of age, height, weight, citizenship, delinquency or misconduct while in the service, or for other reasons, will be canceled and retained in the files of the Commission. All applications which are defective in their execution, and can be corrected by the applicant, will be returned for correction, but an application which has been twice returned for correction and is still found to be incomplete or incorrect will be canceled. All unused applications will be canceled after they have been on file six months.

XVI. Applications part of Commission's records: Applications which have been approved or canceled and all examination papers of competitors form parts of the official records of the Commission, and can not, under any circumstances, be returned to the applicants or competitors.

GENERAL INFORMATION FOR COMPETITORS.

RULES GOVERNING COMPETITORS IN EXAMINATIONS.

Sec. 36. The following is a copy of the rules which are given to each competitor at the beginning of every examination:

1. Copy your examination number from the upper right-hand corner of the declaration sheet which will be given you. Write the number on your "preliminary sheet" for use on each sheet of the examination.
2. See that each sheet received by you pertains to the kind of examination which you are taking, and take care that you do not omit any of the sheets. Competitors are held responsible for errors and omissions.
3. Note in the proper blank spaces the place and date of the examination, the examination number, and the time of commencing and completing each examination sheet.
4. Unless otherwise stated you are not limited in time on any sheet, but gauge your work on each sheet so as to complete the examination within the limit of time prescribed for the entire examination. Time is reckoned from the moment of receiving the first examination sheet. No allowance will be made for time lost in or out of the examining room.
5. Do not leave the room, if possible to avoid it, with a sheet before you unfinished, for if you do the sheet will be taken up and will not be returned to you. A competitor in an examination of five hours or less is not allowed to leave the room until he has finished his examination, except in case of extreme necessity. No competitor shall leave the room at any time without permission of the examiner.
6. Read carefully the printed instructions on each sheet before commencing work thereon.
7. If necessary, the back of a sheet may be used to complete your work, unless directions to the contrary are printed on the sheet.
8. An examination sheet spoiled by you can not be exchanged for another of the same kind.
9. Perform all work on each examination sheet with ink.
10. Pencil and scratch paper may be used in preliminary work, except in the spelling exercise, which must be written with ink directly on the examination sheets from the dictation of the examiner.
11. Use no blank paper except that furnished by the examiner in charge, and on completing an examination sheet hand in the blank paper pertaining to that sheet. Have all your work complete on the examination sheet, however, as the blank paper is collected, not for consideration in the marking, but for destruction.
12. No helps of any kind are allowed. Before the examination is commenced, hand to the examiner any written or printed matter that you may have which might, if used, aid you in your work. Do not make a copy of any of the questions to be taken from the examination room.
13. All conversation or communication between competitors during the examination is strictly prohibited.
14. Do not copy or attempt to copy from the work of any competitor, or permit any competitor to copy from your work or to read the examination sheets in your possession.
15. All necessary explanations will be made to the whole class. Examiners are forbidden to explain the meaning of any question or to make any remarks or suggestions that may assist in its solution.
16. From one to three months may elapse before you are notified of your standing. No unnecessary delay will occur in marking your papers, and you are requested not to increase the labors of the Commission by making inquiries in regard to your standing, unless you have reason to believe that the notice to you has miscarried.
17. TO RAILWAY MAIL COMPETITORS ONLY.—In the Railway Mail Clerk examination sheet 7 contains the Eighth Subject—Reading Addresses. This sheet is not handled by the competitor. The exercise consists of the reading of twenty-five cards, on each of which is written a name and an address. As soon as convenient, during the day, each competitor will be taken aside for this exercise. If the reading is completed in 1½ minutes, the competitor receives 100 for speed, a proportionate deduction being made for time consumed in excess of 1½ minutes. If the reading consumes 5 minutes, the competitor receives only 60 for speed; and if the reading is not completed at the expiration of 5 minutes, the competitor will be stopped and a proportionate deduction be made from 60 for each card not read. Speed and accuracy have equal weight in determining the mark on the exercise. Each name and address on a card must be read in full without abbreviation; if an address or part of an address is incorrectly read and read the second time, the second reading will be ignored, and the competitor will simply lose time by repeating. *As soon as a card is read it must be turned face downwards, so that the cards will be in proper order for the next competitor.* Every error, abbreviation, or omission will be noted on the sheet by the examiner.

WHEN PERIOD OF ELIGIBILITY BEGINS AND ENDS.

Sec. 37. The period of eligibility on all registers is one year from the date of entering the name upon the register, and the name is entered upon the register as soon as practicable after the completion of the marking of the papers. The date of entry of a name on the register is usually but a few days subsequent to the date of the notice of eligibility. (See sec. 26.)

WHEN REEXAMINATIONS ARE ALLOWED.

Sec. 38. If within the age limits and not otherwise barred, persons who pass an examination but fail to receive appointment, and persons who fail to pass, may file new applications and be reexamined after one year: *Provided*, That persons who pass or fail in an examination may, upon filing a new application, be reexamined at the next annual examinations, though a full year has not elapsed since the former examination. Reexaminations other than those named above will be granted only in very exceptional cases, in which injustice has for any reason been done or suffered, and in such cases the request for reexamination must be accompanied by a sworn statement of the alleged facts upon which it is based. Applicants for reexamination on the ground of illness must show that such illness developed after beginning the work of the examination. A statement that the applicant did not do himself justice will not be regarded as sufficient ground for allowing a reexamination. Requests for reexamination can not be acted upon until the papers are marked and notices of standing mailed. (See sec. 7.)

NOTICE OF STANDING TO COMPETITORS.

Sec. 39. A notice of standing will be sent to each person examined, whether he passes or fails to pass. This notice will be sent as soon as practicable after the papers are marked, but sometimes long delays in the marking are unavoidable. Letters inquiring how soon the papers will be marked only serve to delay the work. The notice sent to those who pass or fail in the examinations will show the average on each subject. (See sec. 11.)

It is necessary to obtain a general average of 70 per cent to be eligible for appointment, except that applicants entitled to preference under section 1754, United States Revised Statutes, because of honorable discharge from the military or naval service for disability resulting from wounds or sickness incurred in the line of duty, need obtain but 65 per cent. (See sec. 45.)

CHANGE OF ADDRESS.

Sec. 40. Applicants and eligibles must keep the Commission informed of any change of post-office address. A failure to do so will be treated as the fault of the applicant or eligible, and may result in his losing an opportunity of appointment. Requests to have the address changed should be made by letter in the form indicated in sec. 11, and such letter should relate only to the change in address. (See Regulation IV, sec. 35.)

METHOD OF MARKING EXAMINATION PAPERS.

Sec. 41. The following method is observed in marking examination papers by the examining division of the Commission:

After an examination is held the papers are arranged by sheets or subjects and are forwarded under seal to the Commission. When they are reached in the order of marking, they are distributed by sheets to the examiners, Examiner A being given all of sheets 1, Examiner B all of sheets 2, Examiner C all of sheets 3, and so on, the sheets being distributed to as many examiners as there are subjects in the particular examination to be marked. After the papers are marked in the first instance they are redistributed, and the first marking is reviewed by other examiners. When all of the papers of an examination have been marked and reviewed, those of each competitor are then for the first time assembled or brought together, his general average is ascertained, his declaration envelope is opened, and the declaration sheet to which he has signed his name is attached to his examination papers. The identity of the competitor, therefore, is not disclosed until his papers have been marked and reviewed and his general average determined. As the charges for specific errors are all fixed by the rules for marking, and as each subject is marked by one examiner and reviewed by another, it will be seen that absolute impartiality, accuracy, and uniformity are secured in the work.

Appeals from the markings are sometimes made by competitors, but the prospect of securing a higher average by such action is very remote. Errors on the part of

examiners in making charges are seldom found, as the work of each examiner is verified and checked in every particular by another.

The papers of all the competitors in an examination must be marked at the same time, and no competitor's papers will be made special, or be marked in advance of others.

RULES FOR MARKING EXAMINATION PAPERS.

As soon as practicable after an examination the papers of the competitors shall be marked and the general average of each ascertained.

All examination papers shall be marked under the following rules:

Mark every correct answer.....	100	The difference between the
Mark every faulty answer according to its value on a scale of 100, as herein specifically directed, and deduct the sum of the error marks of each answer from 100.		sum of the error marks of each answer and 100 will be the mark of the answer.

RULES FOR MARKING SPELLING.

	From 100 deduct—
(1) For each error in spelling when the exercise consists of 20 words.....	5
(2) For each error in capitalization.....	1
(3) For each failure to use the hyphen when required in a compound word.....	2
(4) For each wrong use of the hyphen.....	2
(5) For dividing a word, properly written solid, into two or more parts, each part being a distinct word, or for writing a simple word as a compound word.....	2

RULES FOR MARKING WRITING FROM PLAIN COPY.

(1) For each error in orthography.....	5
(2) For each word or figure omitted, repeated, or improperly inserted: <i>Provided</i> , That a deduction of 10 shall be made for two or more consecutive words, if the words do not constitute more than one printed line of the copy; that a deduction of 15 shall be made for more than one line, but not to exceed one and one-half printed lines; that a deduction of 20 shall be made for two printed lines or more than one and one-half lines; and that a proportionate deduction shall be made for a greater number of printed lines: <i>Provided further</i> , That if the copying exercise shall consist of less than five printed lines the charge for the omission of one or more printed lines shall be double.....	5
(3) For each word inserted or added.....	5
(4) For each word or figure substituted.....	5
(5) For each transposition.....	5
(6) For each abbreviation not in the copy.....	5
(7) For each failure to capitalize according to copy.....	5
(8) For each failure to punctuate according to copy.....	5
(9) For each failure to paragraph according to copy.....	5
(10) For irregularity in left-hand margin.....	5
(11) For misdivision of a word at the end of a line.....	1
(12) For each omission or improper use of the hyphen in dividing a word at the end of a line.....	1
(13) For failure to indent as in copy (only one charge to be made in the exercise).....	5
(14) For each variation from the printed copy in the use of parentheses, brackets, or the hyphen.....	5
(15) For each word altered, interlined, or canceled, for each blot, and for each minor erasure, if not neat: <i>Provided</i> , That not more than 5 shall be charged for one interlineation or cancellation or for blots.....	1
(16) For failure to indicate, or for improperly indicating, italics, small caps, etc.....	5
(17) For pen rests, only one charge to be made in the exercise.....	5
(18) For using stenographic period (thus, X), only one charge to be made in the exercise.....	5
(19) For signing name.....	5
(20) For misplacement, want of neatness, etc.....	3 to 5

RULES FOR MARKING COPYING FROM ROUGH DRAFT.

(1) For each error in orthography, provided that no charge shall be made for the repeated misspelling of the same word or stem in the same manner.....	3
(2) For each error in syntax, provided that no additional charge shall be made for changes necessarily resulting from a given method of correction or attempted correction.....	3
(3) For each change in tense, number, etc., which does not result in an error of syntax or essential change in the meaning.....	1
(4) For each word omitted, inserted, or substituted involving a test or essential change of meaning (not more than 10 to be charged for the first ten words of each omission, and one for each word thereafter, and not more than 10 for the omission of each indicated insertion).....	3
(5) For each word omitted, inserted, or substituted involving no test or essential change of meaning, and for each word repeated.....	1
(6) For each error in capitalization, punctuation, indentation, paragraphing, or in division of words.....	1
(7) For each error in transposition of inclosures.....	5
(8) For each error in transposition of words or groups of words, provided that for a transposition of two words which improves the sentence and involves no test no charge shall be made.....	3
(9) For each abbreviation.....	1 to 2
(10) For each failure to use hyphen when required, or for each wrong use of the hyphen.....	1
(11) For irregularity in left-hand margin.....	1 to 3
(12) For each word interlined or canceled (charge not to exceed 5 for any one interlineation or cancellation), for each blot, and each alteration if not neat.....	5
(13) For pen rests, according to gravity of error, only one charge to be made.....	2 to 1
(14) For stenographic periods (as X), only one charge to be made.....	1
(15) For signing name.....	5

RULES FOR MARKING PENMANSHIP.

Mark penmanship according to its value on a scale of 100.

In determining the mark on penmanship, legibility, rapidity, neatness, and general appearance, as well as correctness and uniformity in the formation of words, letters, and punctuation marks, will be considered, and it shall be proper for the examiners to be guided in a general way by the following scheme: Perfect, 100; very excellent, 95 to 90; excellent, 90 to 85; very good, 85 to 80; good, 80 to 75; ordinary, 75 to 70; poor, 70 to 65; very poor, 65 to 50. Below the grade of "very poor," 50 to 10.

RULES FOR MARKING LETTER WRITING.

In marking the letter, its errors in form and address, in spelling, capitalization, punctuation, syntax and style, and its adherence to and treatment of the subject given will be considered and its value in the judgment of the examiners marked on a scale of 100.

In determining the mark for letter writing it shall be proper for the examiner to be guided in a general way by the following scheme:

Excellent, 100 to 90; good, 90 to 80; fair, 80 to 70; ordinary, 70 to 60; poor, 60 to 50; very poor, 50 to 25; practically worthless, 25 to 0.

RULES FOR MARKING ARITHMETIC.

	From 100 deduct—
(1) For wrong process, producing incorrect result in problems involving but one step or operation.....	100
(2) For the first wrong process in problems involving more than one step or operation, from 100 deduct 25 to 75, according to gravity of error; for each subsequent wrong process, according to gravity of error.....	10 to 75
(3) For error of one or more places in pointing off decimals.....	25
(4) For each evasion of a decimal or common fraction test in copying from printed question or from work.....	25
(5) For each error in computation, provided that in solutions where the possible maximum number of chargeable errors in computation is less than 10 a proportionate charge shall be made for each error.....	10
(6) For error in copying figures from printed question or from work, wrong result being obtained.....	10
(7) For error in copying figures from printed question or from work, right result being obtained.....	5
(8) For indicating wrong process, but performing correct process.....	5
(9) For incorrect or inconsistent punctuation.....	5 to 10
(10) For each improper use of the symbol or designation % or ¢ in connection with a decimal expression.....	5 to 10
(11) For each improper or incorrect designation of a partial or final result.....	5
(12) For failure to indicate the answer in problems by the letters "Ans." or otherwise, when the answer is obscured by improper arrangement.....	5
(13) For each failure to use the sign \$ or £, or any other monetary or commercial sign, or any sign by which the relations of quantities are expressed, when the use of such is required in the statement or solution of a problem.....	5
(14) For errors in denominate numbers in quantity of one denomination contained in a unit of a higher denomination, or for failure to express the answer in the several denominations, beginning with the highest, according to the gravity of the error.....	10 to 25
(15) For fractions in answer not reduced to lowest terms.....	5 to 10
(16) For an approximate result not sufficiently exact, or not followed by the proper plus sign or minus sign.....	5 to 10
(17) If, when work or operation in full is required, the correct answer is given, but no work is shown, according to quantity of work required in solution.....	25 to 75
(18) If, when work or operation in full is required, more than the mere answer is given, and the process is neither clearly indicated nor written in full, according to gravity of error.....	5 to 35
(19) For use of superfluous ciphers.....	5
(20) For superfluous or irrelevant work not canceled.....	10
(21) For giving proof instead of solution, according to gravity of error.....	10 to 75
(22) For complex statement, process or method, right result being produced.....	10

RULES FOR MARKING GEOGRAPHY.

In marking this subject each answer shall be marked, in the judgment of the examiners, according to its value on a scale of 100.

When the question requires in the answer a specified number of States, countries, persons, places, locations, or things, the quotient arising from the division of 100 by the number of States, countries, etc., required shall be the credit to be given for each State, country, etc., correctly named. If a greater number is given in the answer than is required, the additional number of States, countries, etc., shall be added to the number required by the question, and the quotient arising from the division of 100 by the number thus obtained shall be the credit to be given for each State, country, etc., correctly named.

RULES FOR MARKING STENOGRAPHY EXAMINATION.

The practical part of this examination consists of two exercises in dictation, to be written by the competitor in stenographic characters, which he must then transcribe. One of the exercises is a selection from a speech and the other is a letter, each containing 200 words. The transcript will be com-

pared with the printed text from which the dictation was given, and charges will be made for errors under the following rules:

	From 100 deduct—
(1) For each word omitted, added, or substituted.....	3
(2) For each word misspelled.....	3
(3) For the use of the plural instead of the singular, or the singular instead of the plural, when the grammatical correctness is not affected, 1 to 2; when the grammatical correctness is affected.....	3
(4) For each gross error in capitalization or punctuation.....	1
(5) For each transposition.....	2
(6) For each error in division of words.....	1
(7) For each word repeated.....	1
(8) For each failure to use hyphen when required.....	1
(9) For each abbreviation.....	1
(10) For failure to transcribe a line or a portion of a line of the stenographic notes, according to the number of words.....	6 to 40
(11) For interlineations, erasures, and lack of neatness.....	1 to 5

Charges for errors in numerals will be determined by the number of words required to write the numerals.

When the mark for accuracy is only 10, no credit will be given for speed.

An important element in this examination is speed in writing the stenographic notes, which will be marked upon the following scale: For a speed of 140 words or more per minute a credit of 100 will be given. For every word less than 140 and not less than 80 per minute $\frac{1}{4}$ of 1 will be deducted. For every word less than 80 per minute $\frac{1}{2}$ of 1 will be deducted from 70.

RULES FOR MARKING TECHNICAL SUBJECTS OF TYPEWRITING EXAMINATION.

Speed and accuracy will be considered in marking all the subjects of this examination, each being marked on a scale of 100; in determining the average on each subject, speed will be given a weight of 2 and accuracy a weight of 3.

1. *Tabulating exercise.*

The tabulating exercise will be marked under the following rules.

	From 100 deduct—
(1) For omitting the general heading.....	10
(2) For improper general heading.....	5 to 10
(3) For each column heading omitted (total charges not to exceed 10).....	5
(4) For each inaccuracy in column headings (total charges not to exceed 10).....	1 to 3
(5) For each irregular margin to columns.....	3 to 10
(6) For each column omitted or substituted.....	25
(7) For each additional column inserted.....	10
(8) For each abbreviation contrary to instructions (total charges not to exceed 35).....	5
(9) For each unnecessary run over to following line.....	5
(10) For each word or item omitted, added, or changed (for the omission of a whole line, 10), and for each transposition of items.....	5
(11) For each error in the name of an individual, State, or place, and for each error in other entries (only one charge to be made for the full name of an individual or for a single-column entry or for the repeated misspelling of the same word).....	5
(12) For each error in spelling in headings, and for other minor errors not specified.....	2 to 5
(13) For want of neatness by reason of blots, erasures, etc.....	5 to 15
(14) For each comma used in place of a decimal point, or vice versa (total charge not to exceed 10).....	2
(15) For each error in punctuation (total charges not to exceed 5).....	1
(16) For omission of punctuation, thus evading test in spacing.....	5 to 20
(17) For omission of \$ or other signs required by copy.....	10
(18) For improper repetition of \$ or other signs required by copy.....	5
(19) For each error not specified above.....	5 to 10
(20) For drawing lines, with hyphen, period, or other character, between lines in table.....	10
(21) For preliminary test on machine.....	5 to 15

Time consumed will be marked according to the following scale: If the competitor consume only twenty minutes in tabulating, he will be credited with 100. When the time consumed is more than twenty minutes and not more than thirty minutes, one-half of 1 will be deducted from 100 for every minute consumed more than twenty minutes. When the time consumed is more than thirty minutes, 1 will be deducted from 95 for every minute consumed more than thirty minutes.

2. *Transcribing rough draft.*

For rules for marking accuracy, see general rules for marking rough draft.

Time consumed will be marked according to the following scale: If the competitor consume only ten minutes in transcribing rough draft, he will be credited with 100. When the time consumed is more than ten minutes and not more than twenty-five minutes, 2 will be deducted from 100 for every minute consumed more than ten minutes. When the time consumed is more than twenty-five minutes, 3 will be deducted from 70 for every minute consumed more than twenty-five minutes.

3. Copying and spacing.

In the copying and spacing exercise particular consideration will be given to the POSITION OF THE LINES AND THE SPACING BETWEEN LINES, the competitor being required to make as nearly as possible a facsimile of the copy.

The copying and spacing exercise will be marked under the following rules:

	From 100 deduct—
(1) For each original error in spacing, according to gravity.....	5 to 15
(2) For each minor error in spacing between words and in commencing lines.....	2 to 3
(3) For lack of neatness.....	5 to 10
(4) For each line omitted.....	10
(5) For each error in orthography.....	5
(6) For each word or figure omitted, inserted, added, or substituted.....	5
(7) For each transposition.....	5
(8) For each failure to punctuate according to copy.....	5
(9) For each failure to paragraph according to copy.....	5
(10) For omission of hyphen in dividing a word at the end of a line.....	3
(11) For each variation from the printed copy not covered by the above rules.....	3 to 5
(12) For preliminary tests on machine.....	5 to 15

Time consumed will be marked under the rule for marking the tabulating exercise.

4. Dictation exercise.

The dictation exercise will be marked under the following rules:

	From 100 deduct—
(1) For each error in orthography.....	3
(2) For each word omitted, added, or substituted.....	3
(3) For the plural number instead of the singular, or the singular instead of the plural, when the grammatical correctness is not affected.....	1 to 2
(4) For each gross error in punctuation.....	1
(5) For each transposition.....	2
(6) For each abbreviation.....	2
(7) For each error in capitalization.....	2
(8) For each failure to use the hyphen when required.....	1
(9) For each wrong use of hyphen.....	1
(10) For each error in division of words.....	1
(11) For each irregularity in left-hand margin.....	3 to 5
(12) For want of neatness.....	5 to 20
(13) For each correction in letters, words, figures, or punctuation, with pen and ink or pencil.....	1 to 2
(14) For each error in paragraphing.....	3
(15) For each failure to space between words.....	2
(16) For striking one letter over another.....	1
(17) For each word repeated.....	2

Time consumed will be marked according to the following scale: For a speed of 65 words per minute a credit of 100 will be given, and for every word in speed less than 65 per minute 1 will be deducted from 100 down to and including 45 words per minute. For a speed of 45 words per minute a credit of 80 will be given, and for every word in speed less than 45, down to and including 35, a deduction of 14 from 80 will be made. For a speed of 35 words per minute a credit of 65 will be given, and for every word in speed less than 35 a deduction of 2 from 65 will be made.

RULES FOR MARKING THE READING OF ADDRESSES.

(Railway-Mail and Post-Office Services.)

Two marks are given for this subject—one for accuracy, the other for speed. The sum of the marks for accuracy and speed, divided by 2, gives the average for the subject.

A charge of 2 will be made for each error, not exceeding two errors for each card, on the cards which are read within the five minutes allowed for the exercise, and a charge of 4 will be made for each address not read within the five minutes (if there be any such). Subtract the sum of these errors thus found from 100 and the result will be the mark for accuracy.

To ascertain the mark on speed the following table should be used. The first column indicates the number of minutes and seconds consumed in reading the addresses and the second column the mark for speed:

Time consumed.			Speed mark.			Time consumed.			Speed mark.			Time consumed.			Speed mark.			Time consumed.			Speed mark.		
Mins.	sec.	Per ct.	Mins.	sec.	Per ct.	Mins.	sec.	Per ct.	Mins.	sec.	Per ct.	Mins.	sec.	Per ct.	Mins.	sec.	Per ct.	Mins.	sec.	Per ct.	Mins.	sec.	Per ct.
1	30	100	2	35	89	3	30	78	4	25	67	4	30	66	5	30	66	5	30	66	6	30	66
1	40	99	2	40	88	3	35	77	4	30	66	4	35	65	5	35	64	5	35	64	6	35	64
1	50	98	2	45	87	3	40	76	4	35	65	4	40	64	5	40	63	5	40	63	6	40	63
1	55	97	2	50	86	3	45	75	4	40	64	4	45	63	5	45	62	5	45	62	6	45	62
2	0	96	2	55	85	3	50	74	4	45	63	4	50	62	5	50	61	5	50	61	6	50	61
2	05	95	3	0	84	3	55	73	4	50	62	4	55	61	5	55	60	5	55	60	6	55	60
2	10	94	3	05	83	4	0	72	4	55	61	5	0	60	5	0	60	5	0	60	6	0	60
2	15	93	3	10	82	4	05	71	5	0	60	5	05	59	5	05	59	5	05	59	6	05	59
2	20	92	3	15	81	4	10	70	5	10	59	5	15	58	5	15	58	5	15	58	6	15	58
2	25	91	3	20	80	4	15	69	5	20	58	5	25	57	5	25	57	5	25	57	6	25	57
2	30	90	3	25	79	4	20	68	5	30	57	5	35	56	5	35	56	5	35	56	6	35	56

The above table shows the mark for minutes and fractions of minutes when the competitor read all the addresses in five minutes or less. If all the addresses are not read within five minutes, the marks will be as follows for the number of cards read:

Cards read.	Speed mark.	Cards read.	Speed mark.	Cards read.	Speed mark.	Cards read.	Speed mark.
	<i>Per ct.</i>		<i>Per ct.</i>		<i>Per ct.</i>		<i>Per ct.</i>
24.....	58	18.....	43	12.....	29	6.....	14
23.....	55	17.....	41	11.....	26	5.....	12
22.....	53	16.....	38	10.....	24	4.....	10
21.....	50	15.....	36	9.....	22	3.....	7
20.....	48	14.....	34	8.....	19	2.....	5
19.....	46	13.....	31	7.....	17	1.....	2

If a competitor is allowed to consume more than five minutes in the reading of the cards, the number of cards considered as read within the prescribed limit will be such proportion of the number of cards actually read as five minutes are to the total number of minutes consumed, and the cards in excess of such number will be treated as if not read.

METHODS OF CERTIFICATION.

Sec. 42. Whenever a vacancy exists, the appointing officer makes requisition upon the Civil Service Commission for a certification of names to fill the vacancy, specifying the kind of position vacant, the sex desired, and the salary. Upon receipt of such requisition the Commission takes from the proper register of eligibles the names of the three persons standing highest of the sex called for, and certifies them to the appointing officer, who is required to select one of the three certified to fill the vacancy. The appointing officer may select any one of the three names. The two remaining names are returned to the register to await further certification. No eligible can be certified for appointment more than three times to the same department or office, but may be certified three times to each of the Executive Departments, if reached for such certifications during the year of eligibility. It will be seen that efforts to expedite certification or to secure certification out of the order required by law, rules, or the Commission's regulations can not possibly be of any avail. The Commission has absolutely no power to certify a name out of its order or to withhold a name from certification when reached. An eligible who declines an appointment tendered him will not again be certified unless he shall request in writing the benefit of the remaining certifications which the rules allow, stating reasons, which must be satisfactory to the Commission, for declining the appointment. (See secs. 24-26.)

Sec. 43. Departmental Service.—Bookkeeper, clerk, stenographer, typewriter, messenger, watchman, and railway-mail eligibles are registered by States; other eligibles for positions in the District of Columbia are registered without regard to State residence, and are entered on registers provided for the particular examination taken. (See sec. 48.)

Sec. 44. (a) When requisition is made upon the Commission for certification of eligibles having qualifications not of such an unusual or highly technical character as to make it difficult to obtain a sufficient number of persons from the different States competent for the position, viz, bookkeeper, clerk, messenger, engineer, fireman, etc., certification is made of the three eligibles standing highest, of the sex called for, from the State at the time having the least share of appointments and therefore entitled to the certification. However, for stenographer and typewriter with a salary of \$840 or more per annum, certification is made of the highest three eligibles of the sex called for who are not residents of States that have received their full quota of appointments.

(b) When a requisition is made upon the Commission for a certification from the railway-mail register, certification is made of the three names highest in grade on the register from the State or Territory in which the vacancy exists.

(c) When requisition is made upon the Commission for certification of eligibles with qualifications of a technical character for positions in the apportioned service, in the District of Columbia, but for which only the requisite number of eligibles are secured, certification is made of the three names standing highest on the register from the State or States not having received an excessive share of appointments under the apportionment. However, when the position is of an unusual or highly technical character and it is difficult to obtain persons competent for the position, the three persons standing highest in grade may be certified without regard to State residence. In this way some of the States have received an excessive share of appointments. (See sec. 48.)

(d) For certain positions outside of the District of Columbia, [see (e) (f) (g)] registers are made up by districts. The name of each eligible will be entered upon the regis-

ter for the district in which he resides, and, if indicated in the application, his name will be entered upon the register of any one or more of the other districts, provided he states in writing that he is willing to accept service wherever assigned in the district or districts named by him. In making certifications to such positions, preference will be given to eligibles having a legal residence in the district or vicinity in which the vacancy exists. Whenever an eligible is certified to a position outside of his district, the certification will not be counted as one of the three to which he is entitled unless he be selected for appointment.

(e) For positions in Indian schools and Indian agencies there are four districts, as follows: No. 1, the States of Michigan, Wisconsin, Minnesota, Iowa, Nebraska, North Dakota, South Dakota, Montana, and Wyoming; No. 2, the States of Idaho, Washington, Oregon, Nevada, California (north of the thirty-seventh parallel of latitude), and Utah; No. 3, California (south of the thirty-seventh parallel of latitude), Arizona, New Mexico, Oklahoma, Indian Territory, Colorado, Kansas, Missouri, Arkansas, Louisiana, and Texas; No. 4, Alabama, Alaska, Connecticut, Delaware, District of Columbia, Florida, Georgia, Illinois, Indiana, Kentucky, Maine, Massachusetts, Maryland, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, West Virginia.

(f) For positions in pension agencies there are eighteen districts, as follows: Augusta, Me.; Boston, Mass., including Connecticut and Rhode Island; Buffalo, N. Y. (excepting New York City district); Chicago, Ill.; Columbus, Ohio; Concord, N. H., including Vermont; Des Moines, Iowa, including Nebraska; Detroit, Mich.; Indianapolis, Ind.; Knoxville, Tenn., including North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, and Arkansas; Louisville, Ky.; Milwaukee, Wis., including Minnesota, North Dakota, and South Dakota; New York City, N. Y.; Philadelphia, Pa.; Pittsburg, Pa.; San Francisco, Cal., including Nevada, Oregon, Idaho, Montana, Washington, Wyoming, Alaska, Arizona, and Utah; Topeka, Kans., including Missouri, Colorado, New Mexico, Oklahoma, and Indian Territory; Washington, D. C., including Delaware, Virginia, Maryland, and West Virginia.

(g) For the positions of tagger and stock examiner there are six districts, as follows: No. 1, Iowa, Minnesota, Montana, Nebraska, North Dakota, South Dakota, and Wyoming; No. 2, Arizona, California, Idaho, Nevada, Oregon, Utah, and Washington; No. 3, Arkansas, Colorado, Indian Territory, Kansas, Louisiana, Missouri, New Mexico, Oklahoma, and Texas; No. 4, Alabama, Florida, Georgia, Illinois, Indiana, Kentucky, Michigan, Mississippi, Ohio, Tennessee, and Wisconsin; No. 5, Delaware, District of Columbia, Maryland, New Jersey, New York, North Carolina, Pennsylvania, South Carolina, Virginia, and West Virginia; No. 6, Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont.

PREFERENCE FOR APPOINTMENT, SECTION 1754, R. S.

Sec. 45. It is a mistaken idea that *all* honorably discharged soldiers or sailors are entitled to preference in certification or appointment. Section 1754 of the Revised Statutes provides that persons honorably discharged from the military or naval service *by reason of disability resulting from wounds or sickness incurred in the line of duty* shall be preferred for appointments to the civil offices, provided they are found to possess the business capacity necessary for the proper discharge of the duties of such offices. A person coming under this provision of law has the following advantages: (a) He is released from all age limitations. (b) He has to attain a general average of only 65 per cent to be eligible, while for all others the required mark is 70 per cent. (c) Having attained an average of 65 per cent, his name is placed upon the register above, and is certified before, all others who have not been allowed preference; and (d) he is released from all laws relating to apportionment of appointments. If on the same register the names of more than one preference claimant appear, the name of the claimant having the highest average will, of course, head the list.

Sec. 46. Table showing the number examined, the number passing the examinations, and the number appointed during the fiscal years ended June 30, 1896, June 30, 1897, and June 30, 1898 for certain examinations.

[Each applicant should carefully examine the figures given in the table, as they will enable him to determine for himself the prospect of appointment from any of the registers. He should bear in mind that only the names of the highest on the registers are certified for appointment.]

Service and position.	Fiscal year ended June—	Male.			Female.			Salaries at which appointed.	
		Examined.	Passed.	Appointed.	Examined.	Passed.	Appointed.	Minimum.	Maximum.
Departmental service:									
Acting Assistant Surgeon.....	1896							\$720	\$720
	1897	4	2						
	1898	32	16	1					
Aid, Coast and Geodetic Survey	1896								
	1897	5	2						
	1898	14	8						
Apprentice.....	1896							a 50	a 1.00
	1897			7					
	1898	109	104	6					
Assistant, Department of Agriculture.....	1896							1,000	1,200
	1897	53	29		7	4			
	1898	43	16	3	4	2	1		
Assistant examiner	1896	151	46	12				1,200	1,200
	1897	176	24	6					
	1898	146	35	6					
Assistant microscopist.....	1896							600	600
	1897	3	2		112	29			
	1898	6	5		1,764	619	171		
Assistant topographer	1896							900	1,200
	1897	18	6						
	1898	22	9	7					
Attendant, Hospital for the Insane	1896							168	216
	1897			5					
	1898	143	93	59	40	32	18		
Bookkeeper	1896	176	85	2	9	2		720	1,000
	1897	233	104	27	14	4			
	1898	189	82	23	12	5			
Clerk.....	1896	319	183	23	101	71	2	600	900
	1897	1,381	974	534	597	368	221		
	1898	1,253	952	50	635	473	66		
Computer, Office of Supervising Architect.....	1896	18	3						2,500
	1897	20	6	1					
	1898	7	4		1	1			
Draftsman, architectural	1896								
	1897	14	8	1					
	1898	5	2	1					
Draftsman (assistant ship), Navy Department.....	1896							772	1,000
	1897	21	2						
	1898	9	3	2					
Draftsman, heating and ventilating.....	1896							1,200	
	1897	2	2						
	1898			1					
Draftsman, junior architectural	1896								1,400
	1897	22	4						
	1898	10	4						
Draftsman, mechanical.....	1896	5	2	1				1,200	1,500
	1897	37	10	4					
	1898	62	10	6					
Draftsman (ship), Navy Department.....	1896								
	1897	5							
	1898	1	1						
Draftsman, senior architectural	1896								1,400
	1897	13	6	2					
	1898	6	2	1					
Draftsman, structural iron	1896								
	1897	11	4						
	1898	1	1						
Draftsman, topographic.....	1896	17	7	6				840	1,500
	1897	89	17	4	2				
	1898	26	16	5					
Fish-culturist.....	1896	29	6	4				600	900
	1897	22	12	8					
	1898	56	30	8					

a Per diem.

b Of these appointments 26 male and 21 female were to positions outside Washington, D. C.

c Of these appointments 47 male and 6 female were to positions outside Washington, D. C.

Sec. 46. Table showing the number examined, the number passing the examinations, and the number appointed during the fiscal years ended June 30, 1896, etc.—Continued.

Service and position.	Fiscal year ended June—	Male.			Female.			Salaries at which appointed.	
		Examined.	Passed.	Appointed.	Examined.	Passed.	Appointed.	Minimum.	Maximum.
Departmental service—Cont'd.	1896								
Inspector of boilers	1897	11	5					\$1,800	\$2,000
	1898	54	50	6					
Inspector of hulls	1896								
	1897	24	12	1				1,200	2,000
	1898	62	47	5					
Junior civil engineer	1896								
	1897	535	197	15				500	1,500
	1898	199	104	21					
Law clerk	1896								
	1897	44	12					900	1,000
	1898	30	10		1	1			
Meat inspector	1896								
	1897	107	39	34				1,200	1,200
	1898	168	53	36					
	1899	120	44	55					
Messenger	1896	31	21	10					
	1897	202	165	11	7	7	2	360	720
	1898	296	276	22	6	5			
Messenger boy	1896	17	10	10					
	1897	418	351	17				(a)	(a)
	1898	85	82	19					
	1899	5	3		7	1	2		
Modern languages	1897	28	14		23	14	1	600	1,000
	1898	44	29	1	31	11			
Observer, Weather Bureau	1896	34	22	1					
	1897	37	23	6				720	1,000
	1898	99	71	26					
Pension examining surgeon	1896								
	1897	139	56	2					Fees.
	1898	77	36	2					
Proof reader	1896	2	2		1	0			
	1897	9	5		4	2		900	900
	1898	6	3						
Railway-mail clerk (b)	1896	5,013	3,048	613					
	1897	6,431	4,710	381				800	800
	1898	4,799	3,828	698					
Sanitary inspector	1896								
	1897	2	1						900
	1898	8	3	1					
Skilled laborer	1896	17	12		550	466	120		
	1897	460	327	29	1,247	1,000	98		
	1898	202	182	22	1,314	1,263	140		
Special pension examiner	1896	72	12						
	1897	147	23	1				900	1,300
	1898	54	16	2					
Stenographer	1896	110	39	c 35	66	15	c 2		
	1897	436	136	c 62	151	50	c 11	600	1,200
	1898	524	125	c 62	203	74	c 14		
Steward, Marine Hospital	1896								
	1897	12	3					450	600
	1898	30	17	9					
Stock examiner	1896	586	393	18					
	1897	156	63	2				900	900
	1898	129	32	1					
Superintendent of construc- tion	1896								
	1897	66	19	6				1,200	d 6.00
	1898	57	20	1					
Tagger	1896	433	309	53					
	1897	342	199	16				720	720
	1898	372	284	86					
Tracer	1896								
	1897	104	21					d 3.12	
	1898	1	0	2					
Typewriter	1896	108	77	5	81	40	3		
	1897	409	225	15	165	90		600	1,000
	1898	487	172	19	208	85	3		

a The pay of messenger boy is from 50 cents per diem to \$360 per annum.

b Appointments are made to class 1, which includes all places paying a salary of \$800 or less per annum. Places above \$800 are filled by promotion or transfer. There are a few places paying less than \$800. A few positions pay from \$1,200 to \$2,000 per annum, but appointments are seldom made at these salaries.

c Appointed from combined stenography and typewriting register.

d Per diem.

Sec. 46. Table showing the number examined, the number passing the examinations, and the number appointed during the fiscal years ended June 30, 1896, etc.—Continued.

Service and position.	Fiscal year ended June—	Male.			Female.			Salaries at which employed.	
		Examined.	Passed.	Appointed.	Examined.	Passed.	Appointed.	Minimum.	Maximum.
Departmental service—Cont'd.	1896	39	16	8					
Watchman	1897	489	283	13				\$480	\$720
	1898	447	302	45					
Indian Service:	1896	75	48	1					
Superintendent and principal teacher.	1897	20	12	2				720	1,500
	1898	21	16	3					
Teacher	1896	123	75	18	209	111	23	500	1,200
	1897	112	52	7	125	56	11		
	1898	57	30	23	100	50	21		
Industrial teacher and farmer.	1896	6	2	1				300	900
	1897	138	66	3					
	1898	73	33	20					
Manual training teacher (teacher of industries).	1896	1						600	600
	1897	10	1	1					
	1898	2	2	2					
Kindergarten teacher	1896				5	5	1	540	660
	1897				52	42	12		
	1898				18	14	14		
Nurse	1896							600	600
	1897				9	5			
	1898				18	11	1		
Seamstress	1896				3	2		600	600
	1897				48	25	1		
	1898				46	27	10		
Matron (a)	1896				145	127	25	450	720
	1897				136	87	27		
	1898				127	91	11		
Physician	1896	44	16	9				720	1,200
	1897	60	18	3					
	1898	35	15	5	1	1			
Government Printing Service:	1896	628	436	140	14	7	3		
Compositor	1897	426	383	54	14	11	1	b 3.20	b 3.20
	1898	383	370	78	13	12			
Bookbinder	1896	95	62	8				b 3.20	b 3.20
	1897	77	58	6					
	1898	76	68	30					
Pressman	1896	71	46	2					
	1897	55	42	17					
	1898	46	44	5					
Stereotyper	1896	10	7						
	1897	5	4	2					
	1898	4	3						
Electrotypewriter	1896	6	4	1				b 3.75	b 3.75
	1897	5	4	1					
	1898			1					
Electrotype finisher	1897	9	8	2					
	1898	4	4	2					
Electrotype molder	1897	4	3	1					
	1898	3	2	2					

a A few positions pay less than \$480 per annum.

b Per diem.

PROSPECT OF APPOINTMENT.

Sec. 47. Entrance to the departmental service is usually in the lowest grades, the higher grades being filled generally by promotion. The prospect of promotion varies so much in the different departments that no special information on the subject can be given. The usual entrance grade is at \$900, but the applicant may be appointed at \$840, \$720, or even \$600.

There are very few special appropriations for the positions of stenographers, typewriters, bookkeepers, draftsmen, etc., and persons who pass those examinations are usually appointed with the designation of clerks or copyists. The supply of male eligibles in stenography and typewriting is barely equal to the demand, and male applicants proficient as stenographers and typewriters have much greater prospects of appointment than other applicants.

The time of examination is not considered in making certifications, as the highest in grade on the register must be certified first, although they may not have been the first examined. Appointment from any register has the effect of removing the name of the eligible from all registers unless the eligible requests otherwise in writing.

In the North Atlantic and North Central States the number of applicants, especially of women, for clerk places is excessive. The appointments from these States are chiefly made from the special registers.

During the last year no women were appointed from the clerk register in the Departments at Washington. In typewriting, only those women who pass at a grade above 88 per cent have any prospect of appointment.

As the number of persons examined for the Railway-Mail Service is far in excess of the number appointed, only those who stand high on the registers have any prospect of being certified. Eligibles, except from the States and Territories of small population, who have grades below 88 have little prospect of appointment.

Places of superintendent of Indian schools are usually filled by the promotion of teachers, and consequently there are few calls for certification from the superintendent register of eligibles. Those on that register with grades below 85 are rarely reached for certification.

THE APPORTIONMENT.

Sec. 48. The civil-service act requires that appointments to the public service in the departments at Washington shall be apportioned among the several States and Territories and the District of Columbia upon the basis of population as ascertained at the last preceding census, so far as the conditions of good administration will warrant. Civil-service rule 8 excepts from such apportionment the following positions: Positions in the Government Printing Office that are not clerical or that do not belong to one of the recognized trades; printer's assistant, skilled helper, and operatives in the Bureau of Engraving and Printing; positions in the post quarter-master's office, in the pension agency, and other local offices in the District of Columbia, and to the positions of page and messenger boy, and of apprentice or student.

The first apportionment was made on the basis of 500 prospective appointments, based on the census of 1880. The population as disclosed by the census of 1890 has been taken as the basis for subsequent apportionments.

The rule of apportionment is applied only to appointments made since the civil-service act was passed, January 16, 1883, the law having provided for the classification of all persons then in the service without regard to legal residence. Since the passage of the act, 4,709 appointments have been made, which have been charged to the apportionment. Statements have been prepared by some of the Executive Departments showing the apportionment of appointments among the several States and Territories for those particular departments, and that some States, so far as any one department is concerned, have not received the number to which apparently entitled in that department. Notwithstanding this, these same States may be in excess, so far as all the departments are concerned. Calculation of apportionment by the commission is necessarily applied to all of the departments instead of to any one particular department. A calculation of an apportionment by any one department may, therefore, be misleading to the public. The record of apportionment kept by the Civil Service Commission is the only one required by the law.

It is not possible to maintain the apportionment with absolute exactness, as it is necessary to examine and certify for appointment to places requiring special or technical knowledge or skill such persons as have demonstrated their fitness after due public notice. Appointments through transfer and various noncompetitive examinations, and the reinstatement of those entitled to that privilege under section 1754, Revised Statutes, also operate to prevent the maintenance of the apportionment with exact mathematical precision.

Except for eligibles who are preferred under section 1754, Revised Statutes, appointments in the departments at Washington as the result of the clerk, book-keeper, messenger, watchman, and other examinations must be from the State having eligibles which, at the time of the certification, has received the least proportional share of all appointments to the departmental service at Washington.

Appointments from the highly technical examinations are made from the persons having the qualifications desired by the departments from the eligibles standing highest in the whole country except those few States which at the time have received an excessive share of appointments.

The number of appointments charged to the District of Columbia early became so largely in excess of the number to which it was entitled that for over ten years past no persons except those allowed preference under section 1754 Revised Statutes, residing in that District have been examined except when there was not a sufficient number of applicants from the States and Territories. As a rule, preference in certification for positions outside of the District of Columbia is given to eligibles having a local residence in the district or vicinity of the place where the vacancy exists.

A new apportionment having been recently calculated, the following regulations are adopted for carrying the same into effect:

(1) All separations of persons previously charged to the apportionment shall be hereafter credited.

(2) All appointments to the apportioned service through entrance examination, by reinstatement, by transfer, or otherwise, of persons for service in, or on direct detail from, any department or office in Washington, D. C., shall be charged to the apportionment.

(3) No appointment, as indicated in regulation 2, shall be made unless the State or Territory of which the persons to be certified are legal residents has at the time received a less per cent of appointments than any other State or Territory or the District of Columbia.

The following table shows the number of appointments made in the apportioned Departmental service from July 16, 1883, to December 31, 1898:

State or Territory.	En- titled.	Re- ceived.	Per cent received.	State or Territory.	En- titled.	Re- ceived.	Per cent received.
Alabama	159	107	67.303	Montana	10	9	90.000
Alaska	3	2	66.666	Nebraska	91	67	73.533
Arizona	6	5	83.335	Nevada	4	4	100.000
Arkansas	112	68	60.724	New Hampshire	41	35	85.365
California	121	95	78.470	New Jersey	149	106	71.126
Colorado	36	26	72.228	New Mexico	16	11	68.750
Connecticut	79	66	85.556	New York	636	490	76.930
Delaware	17	13	76.466	North Carolina	174	115	66.125
District of Columbia	24	196	816.732	North Dakota	12	8	66.664
Florida	37	27	72.981	Ohio	394	318	80.772
Georgia	195	139	71.307	Oklahoma	5	6	120.000
Idaho	8	6	75.000	Oregon	28	21	74.991
Illinois	398	300	75.300	Pennsylvania	550	407	74.074
Indiana	239	189	79.092	Rhode Island	36	27	75.006
Indian Territory	4	4	100.000	South Carolina	124	85	68.510
Iowa	203	146	71.978	South Dakota	20	12	60.000
Kansas	142	108	74.624	Tennessee	189	137	72.473
Kentucky	200	141	70.500	Texas	222	147	66.150
Louisiana	119	76	63.840	Utah	21	12	57.144
Maine	74	56	75.656	Vermont	39	36	92.304
Maryland	113	121	107.085	Virginia	182	153	82.997
Massachusetts	231	188	81.404	Washington	26	16	61.536
Michigan	216	159	73.617	West Virginia	78	60	76.920
Minnesota	123	91	73.953	Wisconsin	173	122	70.516
Mississippi	139	88	63.272	Wyoming	6	6	100.002
Missouri	278	192	69.120				

The following table shows the number of appointments made in the apportioned Government Printing service from June 15, 1898, to December 31, 1898:

State or Territory.	En- titled.	Re- ceived.	Per cent received.	State or Territory.	En- titled.	Re- ceived.	Per cent received.
Alabama	48	8	16.664	Montana	4	5	125.000
Alaska	1	0	0.0	Nebraska	34	17	49.997
Arizona	2	0	0.0	Nevada	1	0	0.0
Arkansas	36	18	50.004	New Hampshire	12	10	83.330
California	39	7	17.948	New Jersey	46	53	115.222
Colorado	13	9	69.228	New Mexico	5	2	40.000
Connecticut	24	14	58.334	New York	191	312	163.488
Delaware	5	10	200.000	North Carolina	52	17	32.691
District of Columbia	7	267	3,814.862	North Dakota	6	7	116.667
Florida	12	7	58.331	Ohio	117	80	68.400
Georgia	59	36	61.020	Oklahoma	2	2	100.000
Idaho	3	1	33.333	Oregon	10	1	10.000
Illinois	122	84	54.880	Pennsylvania	168	166	98.770
Indiana	70	51	72.879	Rhode Island	11	6	54.546
Indian Territory	1	1	100.000	South Carolina	37	14	37.842
Iowa	61	32	52.448	South Dakota	10	7	70.000
Kansas	46	28	60.872	Tennessee	56	28	50.000
Kentucky	59	36	61.020	Texas	71	11	15.488
Louisiana	36	12	33.336	Utah	7	3	42.858
Maine	21	3	14.286	Vermont	11	7	63.637
Maryland	33	95	287.850	Virginia	53	55	102.785
Massachusetts	71	41	57.728	Washington	11	2	18.182
Michigan	67	40	59.720	West Virginia	24	28	116.676
Minnesota	42	36	81.906	Wisconsin	54	15	27.780
Mississippi	41	16	39.024	Wyoming	2	0	0.0
Missouri	86	27	31.301				

SERVICES AND EXAMINATIONS.

Sec. 49. In the table below will be found a list of the services for which examinations are held. On this and the following pages will be found descriptions of the examinations pertaining to each of these services. Some of these examinations may be taken on schedule dates and others only when vacancies exist. A full list of those which may be taken on schedule dates may be found in the schedule, section 9.

	Page.		Page.
<i>Departmental Branch, including.....</i>	34	<i>Departmental Branch—Continued.</i>	
Custodian Service.....	93	Ordnance Department Service.....	98
Departmental Service at Washington..	34	Railway-Mail Service.....	67
Engineer Department Service.....	96	Revenue-Cutter Service.....	92
General Land Office Service.....	94	Steamboat-Inspection Service.....	80
Indian Service.....	63	Subtreasury Service.....	96
Light-House Service.....	90	<i>Custom-House Branch.....</i>	100
Life-Saving Service.....	89	<i>Government Printing Branch.....</i>	77
Marine-Hospital Service.....	85	<i>Internal Revenue Branch.....</i>	102
Mint and Assay Service.....	90	<i>Post-Office Branch.....</i>	101
Navy-Yard Service.....	99		

Sec. 50. Applicants must select the service for which they desire to be examined, and the kind of examination they desire to take. When they have determined upon the examination to be taken, they should note carefully the service to which it pertains, and the exact title of the examination.

Sec. 51. Each applicant must state explicitly in his application, in answer to question 1, the service for which he wishes to be examined and the exact title of examination he desires to take. These two facts can be determined by selecting the service and examination from the list herein given. (See sec. 2.)

Sec. 52. No applicant should name an examination which is not found in this list unless he has seen a public announcement by the Commission of some special or technical examination, which is given only when vacancies occur. No information can be given in regard to such examinations unless they have been publicly announced through the newspapers or otherwise, because the Commission does not know the scope of such examinations or when they will occur until the occasion for them arises and they are announced.

Sec. 53. From the examinations herein named nearly all of the positions in the classified service of the Government will be filled. When a vacancy occurs in any ordinary position, the Commission will decide which of the examinations herein given furnishes the best practical test for the duties of the position, and a certification from the most appropriate register will be made to fill the vacancy. Persons who pass these examinations may be certified, not only to the Departments at Washington, but also to positions in any other part of the classified service requiring similar qualifications.

Sec. 54. Applicants can not determine to what particular positions they will be certified any further than the kind of examination which they take determines the character of the position to which they are eligible. Each applicant must decide as to which examination or examinations he is best qualified to stand, without attempting to determine what particular position in the service he wishes to occupy.

Sec. 55. An applicant for any first-grade examination may take as many first-grade auxiliary examinations as he may desire without filing more than one application; but in his application he must specify each first-grade auxiliary examination which he desires to take. The names of applicants who pass the first-grade basis examination will not be entered on the clerk register unless the "clerk" examination is asked for in the application.

Sec. 56. An applicant for any second-grade examination may take as many second-grade auxiliary examinations as he may desire without filing more than one application; but in his application he must specify each second-grade auxiliary examination which he desires to take.

Sec. 57. Applicants for third-grade examinations may ask for more than one examination in the same application, provided they have the requisite experience for each trade or occupation for which they may ask. For most of the positions filled from the third-grade examination no auxiliary questions are required, but only the basis examination is given. If an applicant asks for more than one examination for which no

auxiliary questions are given, he will be required to take the basis examination only once, but if required to file evidence of experience, a separate form, No. 394, must be filed for each position or examination for which he applies. (See sec. 10.)

Sec. 58. Applicants for registration and applicants for special or technical examinations must file a separate application for each examination desired.

DIFFERENT GRADES OR KINDS OF EXAMINATIONS.

Sec. 59. There are certain subjects, such as spelling, arithmetic, penmanship, copying, and letter writing, which are common to many examinations, and which on this account are grouped together and called "basis examinations." There are three grades of these examinations, known respectively as first, second, and third, the first being the most difficult, the second easier, and the third being the lightest educational test used by the Commission in any of its examinations.

Some of the examinations require only the appropriate basis, while many require, in addition to the basis, other tests appropriate to the character of the positions for which the examinations are held. Some of the technical examinations require no general educational tests. The fourth grade, or trades, examinations, require no educational tests whatever, applicants being graded on experience and physical ability.

Persons attaining eligibility on the full basis part of any first, second, or third grade examination, will not again be required to take the same grade basis (except for railway-mail, post-office, internal-revenue, and customs services) as a part of any auxiliary examination for a period of five years; although, if they so desire, they may be reexamined on the basis not oftener than once a year. This regulation will not be construed to apply to the stenography and typewriting examinations, for which a COMPLETE GRADE BASIS is not provided. Eligibility in those examinations requiring ONLY the full first, second, or third grade basis subjects, such as clerk, tagger, messenger, etc., will not be continued beyond one year.

Sec. 60. The various subjects in every examination are weighted according to their relative importance, the weights representing the ratio of each subject to the whole examination. The method of obtaining the general average of an examination is as follows: Multiply the average obtained on each subject by the relative weight of that subject; add the products; divide the sum of the products by the sum of the relative weights.

Sec. 61. Every competitor in an auxiliary examination must pass with an average of at least 70 per cent on the auxiliary subjects in order to become eligible for appointment. But a competitor in any examination which includes all the first-grade subjects may upon his request prior to the expiration of one year from the date of the examination, have his name entered upon the clerk register of eligibles if he passes upon the basis subjects.

Sec. 62. FIRST-GRADE BASIS.—Applicants should not name the "first-grade" examination in their applications, but should give the exact title of the examination which they desire to take, as "clerk," "bookkeeper," etc. The subjects and the general scope of this basis examination are as follows:

1. *Spelling*: Twenty words slightly above average difficulty.
2. *Arithmetic*: Fundamental rules, fractions, percentage, interest, discount, and analysis.
3. *Letter writing*: Test in the use of the English language for business correspondence.
4. *Penmanship*: Marked on legibility, neatness, and general appearance.
5. *Copying from plain copy*: An exact written copy of a few printed lines.
6. *Copying from rough draft*: Draft of letter with interlineations, erasures, etc., to be copied for signature. Time allowed, five hours.

The character of the questions used in this examination is shown below:

SPELLING.

Spelling is dictated by the examiner. The words are written by the competitor in the blank spaces indicated on the first sheet of the examination. The examiner pronounces each word and gives its definition as printed below. The competitor is required to write only the word and not its definition.

Ginger: The root of a medicinal plant. *Certificate*: A written testimony; as, a certificate of stock. *Promissory*: Containing a promise; as, a promissory note. *Seizing*: Taking suddenly. *Zinc*: A whitish metal. *Adjacent*: Lying near or bordering on. *Properly*: In a proper or right manner. *Schenectady*: A city of the United States. *Opportunity*: A fit or convenient time. *Insertion*: The act of placing in; as, the insertion of an advertisement. *Usage*: Custom in using; as, commercial usage. *Facilitate*: To make easy; as, to facilitate business. *Legible*: Capable of being read; as, a legible signature. *California*: One of the United States. *Flannel*: A soft woolen cloth of loose texture. *Business*: Occupation or trade. *Handkerchief*: A piece of cloth for wiping the face or nose. *Strychnine*: A powerful poison. *Concede*: To give up; to yield; as, to concede a point. *Souvenir*: A token of remembrance; a keepsake.

ARITHMETIC.

1. This question comprises a test in adding figures crosswise and lengthwise. There are usually three columns of about twelve numbers each to be added. 2. Divide $47\frac{3}{4}$ by $7\frac{1}{2}$, multiply the quotient by 3, and to the product add 0.0907 of 214.6. 3. A silver dollar weighs 412 grains and is $\frac{7}{8}$ pure silver. A British crown has the same amount of pure silver as is contained in \$1.218, and is $\frac{3}{4}$ pure silver. What is its weight in grains? 4. The appropriation for the Civil Service Commission for the fiscal year ended June 30, 1897, was \$98,340. During that year 50,000 persons were examined. If 34 per cent of this number failed to pass, and 17 per cent of those who passed were appointed, what was the average cost to the Government of each appointment? 5. A sum of money placed at simple interest amounted in 1 year and 6 months to \$2,687.50. If it had remained at the same rate of interest for six months longer it would have amounted to \$2,750. What was the rate of interest per annum?

LETTER WRITING.

Write a letter of not less than 150 words giving your views as to the advantages and disadvantages of employment in the departmental service in Washington.

This exercise is designed to test the competitor's knowledge of simple English composition and his general intelligence. In marking the letter, its errors in form and address, in spelling, capitals, punctuation, syntax, and style, and its treatment of the subject are considered.

PENMANSHIP.

The mark on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercise of the fifth subject—copying from plain copy.

COPYING FROM PLAIN COPY.

[N. B.—Paragraph, spell, capitalize, and punctuate precisely as in the copy. All omissions and mistakes will be considered in marking this subject.]

Make an exact written copy of the following:

The civil-service act has also limited the power of removal by providing that no person serving in any department or office shall be removed because of his refusal (1) to contribute for a political purpose, or to render political service; or (2) to permit the appointing officer, or any other person in the service, to coerce his political action. The object of Congress in thus limiting the power of appointment and removal was manifestly to divorce the subordinate offices of the Government from politics and elections. The law provides that open, competitive examinations shall be held by the commission; that these examinations shall be practical in their character, and, so far as may be, shall relate to those matters which will fairly test the relative capacity and fitness of the persons examined to discharge the duties of the places to which they seek appointment. (Fourth Report, page 139.)

COPYING FROM ROUGH DRAFT.

For explanation and specimen of this exercise see page 32. This copy of the rough-draft exercise is greatly reduced in size and is therefore not so legible as the examination exercise will be.

Sec. 63. SECOND-GRADE BASIS.—Applicants should not name the second-grade examination in their applications, but should give the exact title of the examination which they desire to take, as "tagger," etc.

The subjects and the general scope of this basis examination are as follows:

1. *Spelling*: Twenty words of average difficulty in common use. 2. *Arithmetic*: Embraces addition, subtraction, multiplication, and division of whole numbers, and common and decimal fractions. 3. *Letter writing*: Test in the use of the English language for business correspondence. 4. *Penmanship*: Marked on legibility, neatness, and general appearance. 5. *Copying from plain copy*: An exact copy of a few printed lines, in competitor's handwriting. Time allowed, four hours.

The character of the questions used in this examination is shown below:

SPELLING.

Spelling is dictated by the examiner. The words are written by the competitor in the blank spaces indicated on the first sheet of the examination. The examiner pronounces each word and gives its definition. The competitor is required to write only the word and not its definition.

Manual: Done with the hands; as, manual labor. *Newspaper*: A printed paper that gives the news. *Exceed*: To surpass or go beyond; as, to exceed one's authority. *Eighth*: Next in order after seventh. *Wisconsin*: One of the United States. *Vehicle*: That in which anything may be carried. *Peaceable*: Gentle or peaceful. *Eager*: Keenly desirous; as, eager to go. *Cellar*: A storeroom under a house. *Delicate*: Very nice; as, a delicate flower. *Assign*: To set apart; as, to assign to duty. *Conceal*: To hide or secrete; as, to conceal valuables. *Minute*: The sixtieth part of an hour. *Benefit*: Advantage or profit. *Awning*: A cover spread for shade. *Forward*: To send toward a destination; as, to forward mail. *Withhold*: To hold back; as, to withhold one's pay. *Diligent*: Busy or active; as, a diligent clerk. *Offered*: Presented for acceptance or rejection. *Station*: A stopping place; as, a railway station.

ARITHMETIC.

1. Add the following, and from the sum subtract 32,885,696 (here will be given a short column of figures).

2. Multiply $7\frac{3}{4}$ by 36.8, and divide the product by 1.92. Solve by decimals. 3. A carrier can assort 43 letters or 37 papers in a minute. At this rate, how many hours will it take him to assort 3,655 letters and 185 pounds of papers, averaging 7 papers to the pound? 4. A lot which was 53 feet wide and 150 feet long sold for \$8,347.50, which was one-fourth more than its cost. What was the cost per square foot? 5. In a certain mail there are 294 pounds 14 ounces of newspapers weighing at the rate of 3 papers to every 7 ounces. How many papers are there in the mail? 16 ounces = 1 pound.

UNITED STATES CIVIL SERVICE COMMISSION.
BASIS EXAMINATION—FIRST GRADE.

Examination Number: _____

SIXTH SUBJECT—COPYING FROM ROUGH DRAFT.

R. 2.—Spelling, use of capitals, punctuation, and all omissions and mistakes will be taken into consideration in marking this subject.

DIRECTIONS TO THE COMPETITOR.—Make on the accompanying blank sheet a smooth copy of the manuscript on this sheet, correcting all errors in syntax and orthography, and punctuating and capitalizing properly. Write in full all abbreviated words. No changes are permitted, except those necessary to correct errors in syntax, orthography, punctuation, and capitalization, and to write in full abbreviated words.

*Although laws may be enacted to prevent such distinctions
 Distinctions will always exist (naturally)
 under every ^{just} form of Govt. that is just
 Equality of talents, of education or of
 wealth cannot be produced, under
 human laws. Every man is entitled
 to protection in the free enjoyment
 of the gift of his own ^{talents} when the laws
 undertake to add to these artificial
 distinctions to grant ^{of money} rights, privileges
 and exclusive prerogatives to make
 the rich richer and the potent more
 powerful, thousands upon thousands of
 citizens have a right to complain of the
 injustice of these laws. ^{There are} at some times
 no necessary evils, and if it will give
 equal protection to the rich and the
 poor, it would be an unequalled
 blessing*

*in fact, it will benefit
 only the rich classes*

*in the present case the law
 is the giving of equal rights
 to the poor and the rich*

*is the same as the law
 which gives the right of
 property to the rich and the
 poor*

LETTER WRITING.

Write a letter of not less than 125 words giving your views as to the advantages derived from free public libraries in the principal cities of your State. This exercise is designed chiefly to test the competitor's skill in simple English composition. In marking the letter, its errors in form and address, in spelling, capitalization, punctuation, syntax, and style, and its adherence to the subject will be considered.

PENMANSHIP.

The mark on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercise of the fifth subject—copying from plain copy.

COPYING FROM PLAIN COPY.

[N. B.—Paragraph, spell, capitalize, and punctuate precisely as in the copy. All omissions and mistakes will be taken into consideration in marking the exercise of this subject.]

Make an exact written copy of the following:

No recommendation of an applicant, competitor, or eligible, involving any disclosure of his political or religious opinions or affiliation, shall be received, filed or considered, by the commission, by any board of examiners, or by any nominating or appointing officer. In making removals or reductions, or in imposing punishment for delinquency or misconduct, penalties like in character shall be imposed for like offenses, and action thereupon shall be taken irrespective of the political or religious opinions or affiliations of the offenders. A person holding a position on the date said position is classified under the civil-service act shall be entitled to all the rights and benefits possessed by persons of the same class or grade appointed upon examination under the provisions of said act.—(Civil Service Rules, p. 10.)

Sec. 64. THIRD-GRADE BASIS.—Applicants should not name the “third-grade” examination in their applications, but should give the exact title of the examination which they desire to take, as “watchman,” “messenger,” etc. The subjects and the general scope of this basis examination are as follows:

1. *Spelling*: Twenty simple words in ordinary use. 2. *Arithmetic*: Embraces addition, subtraction, multiplication, and division of whole numbers and of United States money. 3. *Letter writing*: Test in the use of the English language for business correspondence. 4. *Penmanship*: Marked on legibility, neatness, and general appearance. 5. *Copying from plain copy*: An exact copy of a few printed lines, in competitor's handwriting. Time allowed, three hours.

The character of the questions used in this examination is shown below:

SPELLING.

Spelling is dictated by the examiner. The words are written by the competitor in the blank spaces indicated on the first sheet of the examination. The examiner pronounces each word and gives its definition. The competitor is required to write only the word and not its definition.

Sugar: A sweet substance made from the juice of the sugar cane. *Pledge*: Something given as security. *Cashier*: One who has charge of money in a bank. *Figure*: A mark representing a number. *Carrying*: Conveying or transporting in any way. *Breadth*: The measure from side to side. *Sheet*: The amount of paper made in one body or piece; as, a sheet of paper. *Easily*: In an easy manner. *Frontier*: The border or limits of a country. *Patient*: The habit of being patient. *Guess*: The act of guessing; as, to guess at or 's weight. *Threat*: The act of threatening; as, to make a threat. *Diamond*: A precious gem. *Visit*: To go to see; as, to visit a friend. *Repair*: To mend or make over; as, to repair clothes. *People*: The body of persons composing a nation; as, the American people. *Require*: To be in need of; as, to require money. *Grease*: Soft animal fat. *Answer*: To reply to; as, to answer a letter. *Exist*: To live; as, to exist in poverty.

ARITHMETIC.

1. (This question will consist of a short column of figures to be added.) 2. Divide 2,408,568 by 4,732. 3. Multiply 8,643 by 608, and then subtract 98,746. 4. A merchant who spent \$225, bought 65 pounds of butter at 30 cents per pound, 84 barrels of apples at \$2.25 per barrel, and spent the remainder for coffee. How much did he spend for coffee? 5. During the month of August 450,000 bushels of wheat were shipped from a certain port. During September 87,960 more bushels were shipped than during August. What was the total number of bushels shipped in the two months?

LETTER WRITING.

Write a letter containing not less than 100 words stating some of the advantages now derived by mankind from the art of printing. This exercise is designed chiefly to test the competitor's skill in simple English composition. In marking the letter, its errors in form and address, in spelling, capitalization, punctuation, syntax, and style, and its adherence to the subject, will be considered.

PENMANSHIP.

The mark on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercise of the fourth subject—copying from plain copy.

COPYING.

[N. B.—Paragraph, spell, capitalize, and punctuate as in the copy. All omissions and mistakes will be taken into consideration in marking the exercise of this subject.]

Make an exact written copy of the following:

The present postal policy is to carry newspapers in some cases free, and in all other cases at much lower rates of postage than is charged for letters; the one being for the public weal, while the other is for private benefit. If the telegraph becomes a part of the service it will still be the duty of the Department to transmit telegrams for the press at much lower rates than for private individuals.

DEPARTMENTAL BRANCH.

Sec. 65. Aid examination, Coast and Geodetic Survey, Departmental Service.—Time allowed, two days of six hours each, the first three subjects being given on the first day. This examination may be taken only at the semiannual examination in the spring, at the places marked D on the schedule, section 9, but may not be taken in the fall. Entrance salary, \$900; age limitations, 18 to 25 years; application forms, 304 and 373. Below is a list of the subjects and weights, followed by specimen questions, indicating the scope of the examination:

1. Mathematics, including the elements of calculus and descriptive geometry to and including projections.....	5
2. Astronomy, including the determination of latitude, longitude, and azimuth, and the use of the telescope in field work.....	5
3. Physics, including the elements of optics, magnetism, etc.....	5
4. Surveying, including topography and the use of ordinary field instruments, and the calculation of results.....	15
5. Geography of the United States.....	11
6. Modern languages, including translations into English from any two European languages.....	13
Total	100

MATHEMATICS.

[Logarithmic tables will be furnished.]

1. What angle does $\frac{1}{4}$ of an inch subtend at a distance of 1,000 feet? 2. State the sum of the interior angles of a closed plane figure bounded by straight lines. Give proof. 3. What is the differential of the sine of an arc? And show geometrically its signification, and, by a practical example, the use of the result. 4. Compute all parts of a triangle having given angle $A 33^\circ 0' 10''$, angle $B 45^\circ 20''$, and sides $AB 1,000$ meters. 5. Describe the difference between the orthographic, stereographic and different kinds of conic projections, and the advantages of each where they are employed. Explain generally the methods of descriptive geometry, and illustrate by an example.

ASTRONOMY.

1. State the different methods of determining latitude, longitude, and azimuth, and compare their relative accuracy. 2. Give the adjustments of the transit instrument, and explain the method of making each. 3. Derive the azimuth factor, and show how it is applied in the reduction of meridian observations. 4. State approximately at what o'clock Alpha Lyra (right ascension 18h. 33m.) comes to the upper meridian on April 26, and give the reasoning. 5. Can the southern cross, declination 62° south, be seen from the United States? Give the reasons for your answer.

PHYSICS.

1. Name three processes by which heat is diffused. 2. What is the pressure in grams of the atmosphere on a square meter of the earth's surface at sea level, assuming the density of mercury to be 13.6? Give work in full. 3. What is meant by the C. G. S. system of units? 4. The periods of vibration of two pendulums are as 2 to 3; what is the ratio of their lengths? 5. What is an achromatic lens? What is an applanatic lens? 6. Give a rough method of getting the magnifying power of the telescope of a surveyor's transit. 7. What is meant by the index of refraction of a substance? 8. Name the three elements of terrestrial magnetism which are usually determined by a magnetic survey. 9. Define agonic line. 10. What is meant by diurnal, and what by secular variation of the magnetic needle?

SURVEYING.

1. Mention one method by which the size and figure of the earth can be found, and another by which its figure can be deduced. 2. Describe, briefly, two different kinds of apparatus suitable for measuring a base line. 3. What is meant by the reduction to sea level of a measured distance, and why is such a correction applied? 4. What is meant by "spherical excess," and when is it necessary to take it into account? 5. When does the sum of the azimuth and back azimuth of two intervisible stations differ from 180° ? 6. A level has a scale value of 5 seconds to a millimeter; what is its approximate radius of curvature? 7. What is meant by the adjustment for "wind" in a level? 8. Represent a conical hill by six contour lines.

GEOGRAPHY OF THE UNITED STATES.

1. Give the approximate geographical limits, by degrees of latitude and longitude, of the United States, and its approximate area. 2. Name the States touched by the Mississippi River. 3. Bound Illinois and Georgia. 4. Name five of the principal rivers emptying into the Atlantic. 5. Give the heights of the highest five mountain peaks in the United States, and their location, excluding Alaska.

MODERN LANGUAGES.

Make a close translation of any two (and only two) of the following languages into idiomatic English:

French.—Au lieu d'enfoncer le tube dans le mercure, on peut le soulever de manière que son extrémité inférieure soit légèrement au-dessus de la surface du mercure. Comme il ne se produit plus alors une fermeture hydraulique, l'élévation du niveau est presque imperceptible. Si, dans cette position du tube, on place l'anode à son intérieur, on constate naturellement un abaissement du niveau dont la valeur est plus forte que celle de la précédente élévation. Ce résultat est dû à la différence des dimensions du tube et du vase. Dans cette dernière expérience, on peut évidemment remplacer le mercure par un métal solide; mais on remarque alors qu'il ne se produit aucune variation de niveau.

German.—Entfernt man sich in der Äquatorebene mehr und mehr von der Erde, so nimmt die Anziehung ab, die Zentrifugalkraft dagegen zu, bis endlich an einer Stelle Gleichheit eintritt. Darüber hinaus überwiegt die Zentrifugalkraft. Man kann nun diejenige Niveaufläche, in deren Äquator jene Gleichheit statt hat, als äußerste Niveaufläche bezeichnen, insofern sie unter gewissen Voraussetzungen die Grenze der Atmosphäre sein muss. Wir betrachten hier übrigens diese Fläche nur zu dem Zwecke, um an einem Beispiel zu erkennen, wie sich die Niveauflächen bei grösserem Abstände von der physischen Erdoberfläche verändern.

Spanish.—Si caen los cuerpos abandonados á sí mismos, es en virtud de una fuerza atractiva que los dirige hacia el centro de la tierra, y no por su propia espontaneidad; si disminuye gradualmente la velocidad de una bola en una mesa de billar, es por efecto de la resistencia del aire que desaloja, y por el roce sobre el tapete. Por consiguiente, de esto no debe deducirse que la bola tenga más bien tendencia al reposo que al movimiento, según decían algunos filósofos antiguos, que comparaban la

materia con una persona perezosa. No habiendo resistencia, sigue sin alteracion el movimiento, como nos lo demuestran los astros en su revolucion al rededor del sol.

Italian.—I fenomeni di attrazione e di repulsione notati, possono venire indicati schematicamente come ora dirò. La fig. 2 rappresenta il caso in cui il filo A, visto in sezione, è unito metallicamente dal di fuori del tubo di scarica col catodo C. Sulla parete fluorescente si ha allora una zona M in ombra, la quale è molto più larga dell'altra mn che si avrebbe se A fosse neutro. I raggi catodici, che in questo caso sarebbero sensibilmente rettilinei, sono invece indicati in figura con delle linee di sensibilissima curvatura.

Sec. 68. Apprentice, Departmental Service.—The subjects of this examination are identical with the third-grade basis. Time allowed, three hours; age limit, 14 to 20 years; application forms 304 and 1013. This examination may be taken on the dates and at the places marked A, B, or C, in the schedule, section 9. For character of the third-grade questions see section 64. In addition to the subjects named, applicants will be given credit for any kind of previous training which would tend to make their services valuable. This element will be weighted 25 per cent of the examination.

Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling.....	15
2. Arithmetic.....	15
3. Letter writing.....	15
4. Penmanship.....	15
5. Copying from plain copy.....	15
6. Training.....	25
Total.....	100

Sec. 67. Assistants, Department of Agriculture, Departmental Service.—Examinations for scientific and technical positions in the Department of Agriculture may be taken *only in the spring* at the places marked D, schedule, section 9. Persons who desire to apply should file applications for the "Assistant Examination, Department of Agriculture." Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk-assistant examination. Age limit, 20 years or over; application forms, 304 and 375. Application blanks may be obtained by writing to the Commission after January 1. Applicants must state, in answer to question 1 on the application, in what *major subject or subjects* and in what *minor subject or subjects* they wish to be examined, these to be selected according to the plan outlined below. Not more than five hours for the basis, three hours for each major, and two hours for each minor examination will be allowed. More than one day will be required for the entire examination.

(a) Examinations for assistant in the Department of Agriculture will consist of five parts, as stated below, and credits will be given on the following scale:

	Relative weights.
1. First-grade basis examination:	
Orthography.....	1.5
Arithmetic.....	2.5
Letter writing.....	2.5
Penmanship.....	1.5
Copying.....	2
	10
2. General training and experience.....	5
English composition.....	5
	10
3. Major examination in special scientific or technical subject.....	50
4. Minor examinations in two required subjects.....	20
5. Minor examinations in additional electives.....	10
Total weights.....	100

NOTE.—Exception to above weights: Division B, No. 21 (major), proof reading and indexing, and No. 22 (major), editing and abstracting. When both are taken as majors, they count as 40 each, there being no minors, which together with No. 1 and No. 2 make a total of 100. (Min. Oct. 13, 1897, cl. 7; also Min. Oct. 13, 1897, cl. 3.)

(b) Division A: (1) Chemistry, analytical, agricultural, and industrial; (2) Physics, especially as applied to meteorology and soil study; (3) Meteorology; (4) Botany, systematic; (5) Vegetable physiology and pathology; (6) Horticulture; (7) Bacteriology; (8) Forestry; (9) Zoology; (10) Ornithology and mammalogy; (11) Entomology, general and economic; (12) Physiology and nutrition of man; (13) Animal pathology; (14) Animal production and dairying; (15) Rural engineering; (16) Practice of agriculture; (17) Statistics, especially of agricultural resources and productions; (18) *Physical geography of the United States; (19) *General physics; (20) *General chemistry.

(c) Division B: (21) Proof reading and indexing; (22) Editing and abstracting; (23) Library work; (24) *Bookkeeping; (25) *Stenography; (26) *Typewriting.

(d) Division C: (27) Latin, (28) French, (29) German, (30) Italian, (31) Spanish, translating and abstracting scientific articles in these languages.

(e) Two classes of examinations will be provided in each of the subjects (except those marked *) in A and B—a major examination for specialists, and a minor examination for those who take the subject as an adjunct to their specialty.

*Subjects marked with a * can be taken only as minors.

(f) Applicants must select one of the major subjects in Division A or B as their specialty or major, the examination in which shall count 50.

(g) In addition to the major special subject, applicants must be examined on two minor subjects chosen by themselves, one of which must be from Division A and one from Division C, provided that applicants for numbers 8, 9, 14, 15, 16, and 17 above may select the second minor from A or B instead of C. Each of these subjects shall have a maximum value of 10. The subjects of editing and abstracting and proof reading and indexing when both are taken as major subjects will be combined in one examination, each major having a weight of 40 per cent, and no minor subjects will be required.

(h) Applicants who take vegetable physiology and pathology, horticulture, or forestry as a major subject will be required to take botany as one of the minor subjects; those who take statistics as a major will be required to take physical geography, and those who take meteorology will be required to take physics and physical geography as minors.

(i) Applicants may select as many additional minors from Divisions A, B, or C as they choose; the maximum mark for one additional minor subject is 5; for two, 10; and not more than 10 for any number of electives.

(j) Applicants may also take more than one of the major subjects. In all cases where a competitor takes more than one major subject, and has not taken a sufficient number of minor subjects to attain the maximum rating, an appropriate additional major subject shall be treated as equivalent to a minor subject of the same designation in determining the general average. This treatment, however, shall not interfere with the consideration of each major subject as a separate examination. (Min. Oct. 18, 1897, cl. 3.)

(k) Applicants shall submit a statement of their educational history and opportunities for scientific training and experience, on which they will be given a comparative mark on a basis of 5 as a maximum.

(l) Not more than five hours for the basis, three for each major and two for each minor examination, will be allowed. More than one day will be required.

(m) The name of each competitor who passes the examination will be entered on the register for the major subject or subjects on which he passes, with the grade obtained on the auxiliary subjects combined with the basis, according to the plan given above.

(n) When a vacancy occurs in a scientific position in the Department of Agriculture below the grade of assistant chief or chief, the commission will certify to the Department the highest three names on the scientific register appropriate to the Bureau in which the vacancy exists.

(o) Appointments will be made to the lowest class in the grade, and the higher classes will be filled, as far as practicable, by promotions from the lower classes. It is expected that the positions of assistant chief and chief will be filled by promotion; but in case this is not practicable, certification may be made from existing registers or a special examination may be ordered by the commission.

(p) Vacancies in positions which do not belong to the scientific class will be filled by certification from the basis examinations, preference being given to the eligibles who have passed in scientific subjects. Those who pass in minor subjects without passing in a major subject may be certified for nonscientific positions, and will be given preference over those who have not passed in any scientific subject. The positions of meat inspector, stock examiner, observer, and assistant microscopist will be filled, as heretofore, by certification from the respective registers pertaining to those subjects, preference being given to persons who have also passed in scientific subjects.

Sec. 68. Assistant Examiner, Patent Office, Departmental Service.—Subjects: Physics; chemistry (organic and inorganic); mathematics; technics; mechanical drawing; French or German (translation into English). Time allowed, two days of seven hours each. Age limit, 20 years or over. Application forms, 304 and 375. Entrance salary, \$1,200. This examination may be taken on the date and at the places marked D in the schedule, section 9. Below will be found a table of subjects and weights, with practical questions indicating the scope of the examination.

A credit not to exceed 15 per cent, and in no case to raise the competitor's grade above 100 per cent, will be given to competitors for experience in lines of work similar to those performed in the Patent Office.

Subjects.	Weights.
1. Physics	20
2. Chemistry—inorganic and organic	20
3. Mathematics	10
4. Technics	20
5. Mechanical drawings	20
6. French or German	10
Total	100

The first three subjects will be given on the first day and the others on the second day.

PHYSICS.

1. A body whose mass is 10 grams, supported by a smooth plane inclined to the horizon at an angle of 30°, is connected by a cord passing over the head of the inclined plane to a body hanging vertically, whose mass is 20 grams. Determine the actual acceleration, and the tension of the string in dynes. ($g = 980$ cm. per sec., per sec. Give work in full.) 2. (a) Explain emission and absorption spectra. (b) What is the cause of the dark lines (Fraunhofer's lines) of the solar spectrum? 3. Give the laws governing the transverse vibration of strings. 4. (a) State the effect of fusion on the volume of solids, and give examples. (b) What is the effect of pressure on the fusing point? 5. Describe and explain Wheatstone's bridge, giving diagram.

CHEMISTRY, INORGANIC AND ORGANIC.—1. State and illustrate the law of periodicity in the properties of elements. 2. How may the molecular weight of a chemical compound that is volatile without decomposition be determined? Explain fully the fundamental principles involved. 3. Describe the preparation and properties of arsenic. Give a test for arsenic. 4. Give the formula of alcohol, aldehyde, and acetic acid. What is the relation between these substances? 5. Write the formula of olefiant gas. Of what is olefiant gas a principal constituent?

MATHEMATICS.

1. Factor $9-9x^2-4y^2+12xy$ and $64x^2-12xy-45y^2$.
2. Given $\begin{cases} (x+y)-z=117 \\ x^2-(y+z)=13 \\ (x+y-z)=9 \end{cases}$ to find the values of x and y .
3. Find the equation whose roots are, 0, 3, $-1 \pm \sqrt{5}$, and α .
4. Prove that the figure formed by connecting the middle points of a trapezium, taken in order, is a parallelogram, and that its area is one-half the area of trapezium.
5. Determine the number of regular polyhedrons possible.

TECHNICS.

Answer at least five of the following questions:

1. Describe manufacture of kerosene from crude oil.
2. Describe the manufacture of matches.
3. Describe a time lock.
4. (a) What are meant by "eccentricity" and "angle of advance" as applied to valve gearing? (b) Describe an automatic steam governor which acts by varying these quantities.
5. (a) Describe, and illustrate by diagrams, the windings in a series, a shunt, and a compound wound dynamo. (b) State why the last form of winding is better adapted to yield a constant potential under varying loads than the first two forms.
6. Describe the manufacture of water gas. How are the by-products separated?
7. Describe the manufacture and galvanizing of iron wire.
8. Describe the safety devices commonly employed on passenger elevators.
9. Describe the manufacture of bicycle tubing.
10. Describe the construction of a polyphase motor, and explain its mode of operation.

MECHANICAL DRAWINGS.

For this subject the competitor will be given photolithographic copies of drawings of some kind or portions of machinery, and will be required to describe the construction and operation of the machine represented, naming the different views shown, and the mechanical powers that appear. (The competitor will be instructed as to the name or use of the machine.)

FRENCH AND GERMAN.

The scope of the examination is identical for each language. The examination in each language is divided into two parts. The first part consists of a short extract taken from contemporaneous foreign works, or newspaper or magazine articles. The second part consists of a technical selection. There are, on the sheet, several technical selections, each on a different branch of science, from which the competitor may choose one in each language. Each extract given consists of about 80 words, and the competitor is required to make his translations without the use of a dictionary.

The competitor may take either French or German, or both. In the latter case, the competitor will be credited with the *higher* mark, and the *lower* mark will be noted on the paper, but will not appear as an element in the general average.

For character of the exercises in French and German see aid examination, Coast and Geodetic Survey, sec. 65.

Sec. 69. Assistant Microscopist, Departmental Service.—Subjects, third-grade basis, and practical questions requiring an elementary knowledge of the care and use of the microscope. Time allowed, five hours. Age limit, 20 years or over. Application form, 304. This examination may be taken on the date and at the places marked D in the schedule (sec. 9). It is the practice of the Department to appoint only females to this position, and to confine the appointments to legal residents of the city or vicinity in which the vacancy exists. It is not the practice to appoint anyone whose eyesight is not in condition to permit of the long-continued use of the microscope, or who is not in good general health, and it will therefore be useless for such persons to take this examination.

The principal stock yards at which assistant microscopists are employed are located in the following places: Boston, Mass.; Buffalo, N. Y.; Cedar Rapids, Iowa; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Indianapolis, Ind.; Kansas City, Kans. and Mo.; Marshalltown, Iowa (work temporarily suspended); Milwaukee, Wis.; National Stock Yards, Ill.; Ottumwa, Iowa; Sioux City, Iowa; South Omaha, Nebr.; South St. Joseph, Mo. All persons who attain eligible averages in the examination will receive with their notices of standing a blank form of certificate to be filled out by a physician, showing whether their physical condition is such as to meet the requirements specified. The certificate must be executed immediately upon its receipt, and returned to the commission. For character of the third-grade questions, see sec. 64. Below will be found a table of subjects and weights, with specimen practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	10
2. Arithmetic.....	10
3. Letter writing.....	10
4. Penmanship.....	10
5. Copying from plain copy.....	10
6. Practical questions, including experience.....	50
Total.....	100

PRACTICAL QUESTIONS ON MICROSCOPE.

1. Define a microscope. 2. What is meant by a simple microscope? Give an example. 3. Name the mechanical parts of a compound microscope. 4. Name the optical parts of a compound microscope. 5. In examining a specimen, which should be first used, the higher or the lower power lenses, and why? 6. What are the causes which may produce fatigue of the eyes incident upon using the microscope? In order to avoid fatigue, what cautions and care should be observed? 7. What substances are most commonly used to clean the glass surfaces of a microscope? 8. State how "focusing" is accomplished. 9. How should a specimen of meat be prepared for immediate examination? 10. State the exact period or periods, giving dates, during which you have used a simple or a compound microscope, and give the character of the work and the names of the institutions or establishments in which you were engaged. (In this examination a maximum credit of 15 per cent will be given for experience.)

Sec. 70. Attendant, Government Hospital for the Insane, Departmental Service.—No educational test is given in this examination, but applicants are required to file their applications on Form 1059, which will be furnished for that purpose. Requests for these blanks may be made to the secretary of the local board of examiners at the Government Hospital for the Insane, or the blanks may be procured at the office of the Commission. These blanks, when filled out by the applicant, should be filed with the secretary of the local board of examiners at the hospital. It is the practice of the Department to appoint only unmarried persons who are legal residents of the District of Columbia and vicinity to this position.

Female applicants should not be under 18 nor over 30 years of age, and male applicants should not be under 20 nor over 35 years of age.

Those selected for appointment will be required to pass a satisfactory physical examination before a board of physicians at the Government Hospital for the Insane before receiving appointment. This examination will be given without cost to applicants.

Male attendants during the first six months of service are paid \$18 per month, and female attendants \$14 per month, with board and lodging.

For the position of classified laborer in the Government Hospital for the Insane, see sec. 72.

Sec. 71. Bookkeeper, Departmental Service.—Subjects, first-grade basis, and practical questions on complete bookkeeping, requiring a thorough knowledge of single and double entry. Time allowed, seven hours. Age limit, 20 years or over. Application form, 304. Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk-bookkeeper examination. This examination may be taken on the date and at the places marked D in the schedule, sec. 9. For character of the first-grade questions see sec. 62. Below will be found a table of subjects and weights, followed by specimen practical questions, indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	7.5
2. Arithmetic.....	12.5
3. Letter writing	12.5
4. Penmanship.....	7.5
5. Copying from plain copy.....	5
6. Copying from rough draft	5
7. Practice of bookkeeping	50
Total.....	100

PRACTICE OF BOOKKEEPING.

The first exercise is given a weight of 2, and the second exercise a weight of 1.

FIRST EXERCISE.

Instructions.—On the blanks furnished make the necessary journal entries for the transactions found in the memoranda below. Keep bank account separate from the cash account. Make no daybook entries.

August 2, 1897, James Worley began business with the following resources: Store building and lot, \$4,250; cash in Market Bank \$1,750, in safe \$357.28; Wilton & Co.'s note for \$658.50, dated July 28, due 10 days after date. Liabilities were as follows: Account in favor of John E. Steeves for \$450; note for \$1,893.75 in favor E. P. Coleman, dated July 20, due 60 days after date, with interest at 6 per cent, interest accrued to date, \$4.10.

August 4. Bought with check 10 shares Market Bank stock at 69. (Par value, \$100.)

August 6. Bought of Graber Bros. merchandise worth \$3,875. Gave in payment check for \$400, balance on account.

August 7. Wilton & Co.'s note for \$658.50 (mentioned in resources) has been protested for nonpayment. Protest fee, \$1.85.

August 10. Sold J. Lovell Newell merchandise valued at \$3,134.27. Received in payment at its present worth my note for \$1,893.75 favor E. P. Coleman (mentioned in liabilities), present worth \$1,900.38, balance on account.

August 12. Drew a sight draft on J. Lovell Newell for \$325 and remitted it to Graber Bros. on account.

August 13. Sold to Abner Smith 10 shares Market Bank stock at 71 and received his check on Market Bank for amount.

August 14. Received of J. Lovell Newell on account his draft at 30 days' sight on E. P. Coleman for \$560. Presented above draft for acceptance and Coleman has accepted same payable at Market Bank.

August 14. Due W. H. McCord \$50 salary for one-half month. Paid W. H. McCord one-half the amount due him in cash.

August 16. Discounted at 8 per cent my note for \$1,800 given for 60 days at Market Bank and received credit for proceeds. Discount, \$25.20.

SECOND EXERCISE.

From the data given below make out a balance sheet.

On August 31, 1897, James Corbin and John Smith, under the firm name of Corbin & Smith, had on hand as per inventory the following: Merchandise, \$2,405; real estate, \$7,800; stationery, \$12.50. The footings of the accounts in their ledger were as follows:

Debit footings—James Corbin (member of firm), \$260; cash, \$2,875.25; Hartford Bank, \$2,989; real estate, \$7,500; merchandise, \$6,650.89; bills receivable, \$2,689; bills payable, \$975.80; expense, \$167.50; interest and discount, \$40.78; Levi Williams, \$900.

Credit footings—James Corbin (member of firm), \$6,567.44; John Smith (member of firm), \$7,897.50; cash, \$1,297.28; Hartford Bank, \$897.75; merchandise, \$5,489.80; bills receivable, \$1,600; bills payable, \$1,275.80; interest and discount, \$22.65.

Sec. 72. Classified laborer, Government Hospital for the Insane, Departmental Service.—Age limit, 20 years or over. Application form, 1029. No educational tests are given for this position, but applicants are rated on the elements of age, experience, and physical condition, as shown by the sworn statements and vouchers furnished in the application. For application blank (Form 1029) and information relative to this position applicants should write or apply in person to the secretary of the board of examiners, Government Hospital for the Insane, Washington, D. C.

Sec. 73. Clerk, Departmental Service.—The subjects and specimen questions of this examination are the same as given in section 62 for the first-grade basis. Time allowed, five hours. Age limit, 20 years or over. Application form, 304. Entrance salaries are from \$600 to \$900. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, section 9.

Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling.....	15
2. Arithmetic.....	25
3. Letter writing.....	25
4. Penmanship.....	15
5. Copying from plain copy.....	10
6. Copying from rough draft.....	10
Total.....	100

Sec. 74. Computer, Supervising Architect's Office, Departmental Service.—Salary, \$1,200 to \$1,800; application forms, 304 and 375; age limit, 20 years or over. No previous practical experience required. This examination will be held only when eligibles are needed, and applications will not be received until such an examination is announced.

Below will be found a table of the subjects and weights, followed by specimen practical questions indicating the scope of this examination:

1. Arithmetic and elementary mathematics (including mensuration).....	20
2. Knowledge of building materials and construction, and specifications	40
3. Computing quantities from drawings.....	40
Total	100

Time allowed, two days of seven hours each. First day, subjects 1 and 2; second day, subject 3.

ARITHMETIC AND ELEMENTARY MATHEMATICS (INCLUDING MENSURATION).

1. The same as question 1 of second subject of junior architectural draftman. 2. Extract the square root of 492,868.586116. 3. Divide $29\frac{3}{4}$ by $3\frac{1}{2}$, multiply the quotient by 42.8, and add to the product $\frac{1}{2}$ of 1159. 4. Construct graphically an ellipse whose diameters are 4 inches and 3 inches. Show your construction in detail. 5. Given a circle and a straight line which does not touch or cut it; show how to describe a circle which shall touch the given circle externally and the straight line at a given point. Prove your construction. 6. The radius of a circle is 2 feet. Find its circumference and area. Give this answer and those that follow correct to two decimal places. 7. What is the area of a triangle whose sides are, respectively, 3, 5, and 7 feet long? 8. The base of an equilateral triangle is 10 feet, what is its height and area? 9. The chord of a segment of a circle is 8 feet, and its versed sine is $2\frac{1}{2}$ feet; find the radius of the circle and the area of the segment. 10. Find the area of a regular octagon of 20 feet side.

KNOWLEDGE OF MATERIALS AND CONSTRUCTION.

1. Of what materials are concrete, lime mortar, and first coat of plaster composed, in what way is each used, and in what proportions are they mixed? 2. What are the characteristics of good common brick, and good building sand, and what tests would you employ to ascertain their quality? 3. (a) In what respects do Rosendale and Portland cements differ? (b) What are the characteristics of first-class pine lumber? 4. Define or illustrate the following terms: (a) Needles; (b) Grout; (c) Fire stops; (d) Templates; (e) Beds and builds; (f) Chases; (g) Bush hammered; (h) Staggered; (i) Crandalled; (k) Briquettes. 5. Give a plan and elevation of the floor framing around a chimney in an outside brick wall, and name the different parts. 6. Describe two different ways of securing ashlar facing to backing. 7. Give a section through a door jamb, and through the style of a veneered door. Name the different parts and the materials for each. 8. (a) How would you specify joints to be made (1) between cast-iron pipes and (2) between a lead pipe and an iron one? (b) What is the least fall per foot that you would specify for a sewer from house to street? 9. Give sections through the head, sill, and jamb of a sliding sash window frame, in a brick wall, name the different parts, and specify the materials for each part. 10. Name four different bonds employed in brickwork. Make neat pen and ink sketch plans and elevations of each.

SPECIFICATIONS.

For this subject the competitor will be given four drawings of the elevations and plans of a federal building and will be required to write a preliminary block specification, sufficiently detailed to enable a contractor to make a preliminary estimate.

COMPUTING QUANTITIES.

(Use of slide rule is permitted in computations.)

1. From the elevations and plans of the federal building, given under the subject "specifications," take out the quantities of the brick work. 2. From the same drawings, take out the quantities of the stonework. 3. Calculate the quantity of lumber (board measure) in the frame of the sides, floor, and roof of a framed structure of the following dimensions: 28 x 20 feet; 12 feet from top of sill plate to under side of cap plate; roof $\frac{1}{2}$ pitch and placed longitudinally of building; sill 4 x 8 inches; floor joists, 3 x 12 inches, spaced 16 inches on centers; vertical studs, 3 x 4 inches, spaced 16 inches on centers; corner studs, 4 x 4 inches; cap plates, 2 x 4 inches; rafters, 2 x 6 inches, 16 inches on centers; ridge piece, 2 x 8 inches. 4. (a) Calculate the weight, in pounds, of a C. I. column of the following dimensions: Length of shaft, 16 feet; outside diameter, 15 inches; thickness of metal in shaft, $\frac{1}{4}$ inches. At each end is a circular flange 1 inch thick and projecting 3 inches beyond outside diameter of column. There are four stiffening ribs at each flange, 1 inch thick and 3 inches deep. (b) Calculate the weight, in pounds, of a steel girder 30 feet long, total depth at center, $3' 4\frac{1}{2}"$; flanges, each 15 x 1 inch, with additional plate 15 feet x 15 inches x 1 inch; web, $\frac{1}{2}$ inch; angle irons, $4\frac{1}{2}$ x $4\frac{1}{2}$ x $\frac{1}{2}$ inches; rivets, $\frac{1}{2}$ inches, and 3-inch pitch throughout. Omit joint covers in estimation.

For questions 1 and 2 two plans and elevations of a small post-office building will be given.

Sec. 75. Draftsmen, ship, Bureau of Construction and Repair, Navy Department, Departmental Service.—These examinations consist of the ship draftsman examination, the assistant ship draftsman examination, and the copyist ship draftsman (tracer) examination. The examinations may be taken on the date and at the places marked D in the schedule, section 9. Age limit, 20 years or over. Application forms, 304 and 375. In naming the kind of examination in the application applicants should indicate that it is for the Bureau of Construction and Repair, Navy Department. The salaries of these positions are approximately as follows: Draftsman, at the rate of \$5 to \$6 per diem; assistant draftsman, at the rate of about \$4 per diem; copyist ship draftsman (tracer), at the rate of \$1,000 to \$1,250 per annum. Competitors will be supplied with all necessary writing paper, drawing paper, and tracing linen for the examination, but must bring pen and ink, and all instruments and other materials likely to be used in connection with the examination. Applicants may bring standard engineering handbooks, logarithmic and other numerical tables to the examination room, but they may or may not be permitted to refer to any or all of them, depending upon the nature of the questions. Instructions in this regard will accompany the list of questions, and will be rigidly observed.

Applicants will be required to file with the Commission, on Form 375, certificates from their present employers or instructors, if practicable, testifying to their skill and adaptability for the service required.

For the positions of ship draftsman and assistant ship draftsman the number of eligibles has not been sufficient to meet the needs of the service.

Below will be found a list of the subjects and weights, with specimen practical questions, indicating the scope of the different examinations:

Ship draftsman.—Time allowed, four days. The first day, subject 1 (five hours); second day, subject 2 (six hours); third day, subject 3 (seven hours); fourth day, subject 4 (six hours).

Subjects.	Weights.
1. Applied mathematics	15
2. Ship calculations	15
3. Ship drafting	30
4. Practical shipbuilding	15
5. Technical education and experience	25
Total	100

Assistant ship draftsman.—Time allowed, three days. The first day, subjects 1 and 2 (seven hours); second day, subject 3 (seven hours); third day, subject 4 (seven hours).

The general character of the questions and tests in this examination are similar to, but of somewhat less difficulty than those given under the ship draftsman examination.

Subjects.	Weights.
1. Pure and applied mathematics	20
2. Practical shipbuilding	20
3. Ship drafting	20
4. Ship calculations	20
5. Technical education and experience	20
Total	100

Copyist ship draftsman (tracer).—Time allowed, two days of six hours each. Subjects 1 and 2 are completed and subjects 3 and 4 are commenced on the first day; subjects 3 and 4 are completed on the second day.

Subjects.	Weights.
1. Penmanship	5
2. Letter writing	5
3. Tracing ship drawings	50
4. Free-hand lettering	25
5. Experience in the tracing of drawings	15
Total	100

No samples of the tests given in the third and fourth subjects can be furnished.

APPLIED MATHEMATICS.

[This and the following subjects apply to the draftsman examination. The same subjects for the assistant draftsman examination will be somewhat more elementary in character.]

1. Deduce an expression for the spacing of rivets in terms of tensile strength of plate, shearing strength of rivet, thickness of plate, and diameter of rivet hole, for a joint of maximum strength. Deduce from the above an expression for the percentage strength of the riveted joint compared with solid plate. 2. Deduce and discuss the well-known formula $\frac{P}{Y} = \frac{M}{I}$

3. Make a sketch design of an anchor davit to meet the following requirements: Davit to step on middle line of deck; head of davit to be 9 feet clear of the deck; radius of swing, 10 feet; weight of anchor to be lifted, 7,000 pounds. Davit to be designed for maximum strength for minimum weight of material. Give, as nearly as you are able, the dimensions of above davit and its appropriate weight. 4. Discuss in a general way the question of "Strength of materials," reviewing the various properties which have to be considered in applying them to the various uses, and the relative importance of such properties. Confine the discussion to the materials principally used in shipbuilding, such as steel, iron, wood, etc., and give figures when you can. 5. Deduce an expression for the diameter of a rudder stock, in terms of the speed of ship, the area and position of center of gravity of rudder. Apply the above to a numerical example, supposing the maximum angle of rudder to be 40° and the safe stress 11,000 pounds per square inch.

SHIP CALCULATIONS.

1. Make a list of the various calculations that are usually required for a ship, and give a very brief description of each. 2. What is a displacement sheet? What are the principal curves plotted on it? Make a list of the scales which you have found or which you would consider most useful for the several curves on the displacement sheet. What is the advantage in confining these scales to a standard? 3. Outline forms for the calculation of displacement, center of buoyancy, and metacenters, carrying them out sufficiently to make the method clear. 4. Describe a method for stability calculations with which you are acquainted, giving the method which you consider most advantageous, with an outline of forms used in the calculation. Describe a method for calculating the wetted surface of a vessel. 5. Describe in detail the "inclining experiment," deducing the formula for obtaining the position of the center of gravity when the positions of the metacenter and center of buoyancy are known. Make a sketch. Apply the formula to a reasonable numerical example. 6. What is the "equivalent girder," how is it obtained, and to what use is it applied? Assume a simple example and illustrate graphically. 7. Describe briefly the method of placing a ship "on a wave," in connection with the strength calculations, stating the method of construction of the wave, its usual proportions, etc. What curves do you obtain from the above? Make a sketch of these curves as you would expect them to be for any type of vessel you may choose. What is usually considered a safe estimate for the maximum bending moment to which the several types of vessels are subjected, in terms of their length and displacement? 8. Make a tabular classification of the weights of a vessel as they should, in your opinion, be recorded, classifying them under not less than 20 nor more than 50 heads. 9. Give the following areas of water lines, spaced at an equal distance of $\frac{1}{4}$ feet from 0 to 27 feet; find the displacement and center of buoyancy vertically up to the 27-foot water line in water of 35 cubic feet to the ton, also the tons per inch at each water line: 5,000 square feet, 15,000 square feet, 17,500 square feet, 18,800 square feet, 19,600 square feet, 20,000 square feet, 19,800 square feet. 10. Given, the half ordinates of the load water line of a ship are 0.3, 2.7, 12.5, 16.5, 18, 18.5, 18.3, 17, 14.5, 9.8, 1.2 feet, spaced equally 16.5 feet apart. Determine the moment of inertia of the water plane about the longitudinal and transverse neutral axis. Assuming that the draft at the load water line is 12 feet, and that the block coefficient is 0.48, determine the values of the longitudinal and transverse metacentric radii, and the moment to trim the ship 1 inch.

PRACTICAL SHIPBUILDING.

1. Describe the different systems of main framing in steel vessels with which you are familiar, noting the advantages of each. Describe, in brief, the methods of setting up and riveting up the main framing of each system described above, following the work from the laying of keel through the various steps. 2. Sketch the sections of various steel shapes used in shipbuilding, stating the principal uses of each. Give a brief description of a mold loft and of the work done there. 3. Make a sketch of outside plating of a cruiser: Suppose plates to run 20 feet long, 42 inches wide, $\frac{1}{2}$ inch thick, frames spaced 3 feet apart show the connections of edges and butts, style, size, and spacing of rivets, and the shift of butts. Use the raised and sunken system. 4. What wood is most suitable for deck plank? Sketch a section of an upper deck, showing fastenings for deck plank on a plated deck, on a deck not plated. Assume suitable size and length of plank, and show shift of butts. 5. Describe, with sketches, the laying of blocks on a building slip, together with the preparation of launching ways, and the various considerations which affect the inclination of each. What calculations are made, for launching, in regard to length of sliding and ground ways, height of water over end of ways, etc.? What is the object of these calculations?

SHIP DRAFTING.

1. Make a finished sketch on a scale of $\frac{1}{4}$ inch = 1 foot of the midship section of a 4,500-ton protected cruiser, with principal dimensions as follows: Length on load water line, 325 feet; molded breadth, 48 feet; depth, from upper side main deck beams to underside of flat keel, 35 feet; mean load draft, 19 feet. In making the sketch all details generally shown on the midship section plan are to be given, with scantlings, rivet spacing, etc. Due regard must be paid to having all parts properly proportioned for strength required on a vessel of size given. The ship is supposed to have a double bottom and a protective deck $1\frac{1}{2}$ inches thick on flat and slope, worked in a lower course of $\frac{1}{4}$ inch and an upper course of $\frac{1}{2}$ inch, and placed in reference to load draft given. 2. Make a working sketch of a water-tight hinged door $2' 6'' \times 7'$, scale 1 inch = 1 foot, showing details of hinges, dogs, method of securing rubber, etc. Make a similar sketch, to the same scale, of a water-tight hatch cover $3' 6'' \times 6' 6''$, designed for lifting off and stowing. 3. Make a working sketch of a vertical sliding door, $2' \times 6' 6''$, scale 1 inch = 1 foot, supposed to be on an engine-room bulkhead, capable of being worked at the door or from the deck above. 4. Design and make working sketch for a foundation for a direct connected electric generating set, supposed to weigh 5,000 pounds and to make 350 revolutions per minute. There are six holding-down bolts for the bed plate of the set, arranged in three pairs, spaced 3 feet apart, in the direction of the crank shaft. The pair at the engine end are 3 feet 6 inches apart, the pair abreast the coupling are the same distance apart, and the pair at the commutator end are 2 feet 6 inches apart. With these dimensions, assume the size of bed plate and design the foundation, which is supposed to be in a fore-and-aft direction, on the forward platform deck, over a coal bunker. The deck is of 15-pound plate, beams of 12-pound angle bulbs, spaced 3 feet apart. The aim of the design is to have a foundation free from vibration, and one which will not allow the oil to work through into the bunker. 5. Make a sketch design of a steering gear which you would consider suitable for the vessel outlined in 1. Show all parts, from the rudder head up to the connections, or leads, to the steering engine, which need not be shown, but which will be briefly described.

Sec. 76. Draftsman examinations, Supervising Architect's Office, Departmental Service.—The examinations (except for heating and ventilating and structural iron draftsmen, which will be held only when eligibles are needed) may be taken on the date and at the places marked D, schedule, section 9. Age limit, 20 years or over. Competitors will be supplied with writing and drawing paper for the examinations, but must bring pen, ink, drawing board, and all other materials likely to be used in the examination. Application forms, 304 and 375.

Below will be found a list of the subjects and weights of the different draftsman examinations applicable to the Supervising Architect's Office:

(a) *Junior architectural draftsman*.—Entrance salary, \$800 to \$1,000; application forms, 304 and 375; for specimen questions see (a) below:

1. Arithmetic and elementary mathematics.....	10
2. Knowledge of building materials and construction.....	20
3. Free-hand drawing and orthographic projection.....	20
4. Architectural drawing.....	40
5. Technical education and experience.....	10
Total.....	100

Time allowed, two days of eight hours each. First day, subjects 1, 2, and 3; second day, subject 4.

(b) *Architectural draftsman*.—Entrance salary, \$1,200 to \$1,400; application forms, 304 and 375; for specimen questions see (b) below:

1. Knowledge of building materials and construction, and specifications.....	25
2. Architectural drawing and design.....	30
3. Free-hand drawing, ornament, and orthographic projection.....	25
4. Technical education and experience.....	20
Total.....	100

Time allowed, three days. First day, subject 1 (six hours); second day, subject 2 (eight hours); third day, subject 3 (six hours).

(c) *Senior architectural draftsman*.—Salary, \$1,600 to \$2,000; application forms, 304 and 375. Subjects same as under (b) above. The examinations, however, require more extensive knowledge and greater ability and experience as a draftsman. Time allowed, three days, as (b) above; for specimen questions see (c) below.

(d) *Structural-iron draftsman*.—Entrance salary, \$1,600; application forms, 304 and 375; see (d) below:

1. Pure and applied mathematics.....	20
2. Knowledge of materials, drawing, and design.....	60
3. Technical education and experience.....	20
Total.....	100

Time allowed three days. First day (five hours), subject 1; second and third days (seven hours each), subject 2.

(e) *Heating and ventilating draftsman.*—Salary, \$1,200; application forms, 304 and 375; for specimen questions see (e) below:

1. Arithmetic and elementary mathematics.....	10
2. Practical questions in heating and ventilating.....	40
3. Drawing and design.....	40
4. Technical education and experience.....	10
Total.....	100

Time allowed, two days, of seven hours each. First day, subjects 1 and 2; second day, subject 3.

Below will be found specimen questions indicating the scope of the above-named examinations:

(a) *Junior architectural draftsman.*

ELEMENTARY MATHEMATICS.

1. This question comprises a test in adding figures crosswise and lengthwise. There are usually three columns of about twelve numbers each to be added. 2. Multiply 382.58 by $\frac{1}{2}$ of 27.342, and divide the product by $\frac{1}{4}$ of 34.78. (Work by decimals.) 3. Extract the square root of 492,868.586116. 4. Given a straight line of definite length, show how to divide it graphically into four parts proportional in length to the numbers 1, 2, 3, and 5. 5. Describe a circle through any three given points not in a straight line, and prove your construction.

KNOWLEDGE OF MATERIALS AND CONSTRUCTION.

1. What are the characteristics of first-class building brick, best quality lime, and building sand? 2. Name four different bonds employed in brickwork. Make neat pen-and-ink sketch plans and elevations of each. 3. Explain or show by sketch the best method of framing studs and joists on sills, and make, also, a neat sketch section through the sill and the stone foundation of a frame house. 4. Make a sketch section and elevation in ink, showing the construction of an ordinary panel door; name all the parts. Draw a sketch about one-sixth full size showing section through a veneered door. 5. Show by a sketch the method of framing a floor around a chimney in an outside brick wall, and name the different parts of the framing.

ORTHOGRAPHIC PROJECTION AND FREE-HAND DRAWING.

A right regular triangular prism, whose height is $2\frac{1}{2}$ inches, and the edge of whose ends is $1\frac{1}{2}$ inches, stands on one end as a base, with two edges of base equally inclined to the vertical plane. The center of the base is $1\frac{1}{2}$ inches from the vertical plane. 1. Draw plan and elevation, and show true form of section made by a cutting plane at right angles to the vertical plane, at 45° to the horizontal plane, and bisecting the axis of the pyramid. 2. Draw the development of the lower part of the prism. 3. Make free-hand drawing in pencil of sketch of ornament furnished, enlarging to twice the size there shown. 4. Make free-hand drawing in ink of the study for house, enlarging to twice the size there shown.

ARCHITECTURAL DRAWING.

1. Name the five orders of architecture and the principal parts into which an order is divided. 2. Draw, in pencil, a Roman Doric cap, using 2 inches as a module. 3. The plan given on sheet 5a is to $\frac{1}{4}$ inch scale. Enlarge to $\frac{1}{2}$ inch scale and finish in pencil. 4. Make a copy of the elevation given on the same sheet, in pencil. Use the same scale as in copy. Finish one bay complete. 5. Make a tracing, in ink, of your drawing furnished in answer to 4.

NOTE.—The drawing given in connection with questions 3, 4, and 5, will be a simple plan and elevation of a small public building.

(b) *Architectural draftsman.*

KNOWLEDGE OF MATERIALS AND CONSTRUCTION.

1. Give, to about 1-inch scale, a sketch plan and section of a fireplace with hearth and trimmer arch, the opening to be 2 feet 6 inches high, 3 feet wide, and 16 inches deep. 2. Give two sketch plans of a brick pier between two windows, and faced with ashlar, showing the bond of the ashlar, and the anchors and cramps required to bond the work. 3. What is "slow-burning construction?" Give a pen-and-ink sketch of the post and girder connections and of the floor construction in a building of this type. 4. Of what materials are (1) concrete, (2) lime mortar, (3) cement mortar, (4) first coat of plaster composed; in what way is each used, and in what proportions are the materials mixed in each case? 5. What are the characteristics of good common brick and good building sand, and what tests would you employ to ascertain their quality? In what respects do Rosendale and Portland cements differ? 6. Give sections through the head, sill, and jamb of a sliding-sash window frame, name the different parts, and specify the material of which each part should be made. 7. What are the characteristics of first-class yellow-pine lumber? Define wet rot and dry rot, and state how each is prevented. 8. How would you specify a joint to be made between (a) cast-iron pipes and (b) between a cast-iron pipe and a lead one? What minimum fall would you allow in a sewer from house to street? 9. Show, by a neat pen-and-ink sketch, the proper method of arranging a ventilated running trap outside the wall of a building on the line of pipe connecting with sewer. 10. Make a neat pen-and-ink sketch showing longitudinal section through string of an iron staircase with marble treads; also show a section of gallery casing in a fireproof building, the floor to be of marble.

The drawings required to be made under instructions given above represent elevation and first-floor plan of a federal building. Stone facing. Fireproof construction. 1. Give the headings of the principal subjects to be covered in a specification for such a building. 2. Give a short outline draft of a specification for the cut-stone work. 3. A short outline draft for the brickwork. 4. A short outline draft for the carpenter work. 5. A short outline draft for the painting and glazing.

DRAWING AND DESIGN.

1. Name and describe in outline the Greek and Roman orders, mentioning the principal points in which they differ. 2. Draw, in pencil, with a module of one-half inch, the Corinthian order, and give the proper technical name for each of its parts and members. 3. Lay out, in pencil, to one-eighth inch scale, the sketch plan shown on sheet 4a, and figure your drawing fully. 4. Lay out the elevation, in pencil, to the same scale, finish one-half of your drawing, and figure the openings. 5. Make a tracing in ink, on linen, of your drawings in answer to questions 3 and 4, and letter the tracing neatly.

For questions 3, 4, and 5 a rough sketch plan and elevation of a public building was given.

FREE-HAND DRAWING AND ORTHOGRAPHIC PROJECTION.

Give finished pencil sketches of two of the following-named styles of ornament, and indicate your selection: 1. Greek or Roman. (Select one.) 2. Gothic or Renaissance. (Select one.) A right, regular octagonal prism, whose height is 3 inches and the edge of whose ends is 1 inch, stands on an edge of one end on the horizontal plane, with its axis parallel to the vertical plane, at 60° to the horizontal plane and $1\frac{1}{2}$ inches from the latter. The edge on a horizontal plane is inclined at 60° to the vertical plane. 3. Draw plan and elevation. 4. Show true form of section made by a horizontal cutting plane which bisects the axis, and develop the lower part of the prism. 5. An octagonal column, 3 inches high, and the diagonals of whose base are $2\frac{1}{2}$ inches, stands vertical and has a plinth 4 inches square and 1 inch thick lying flat on top. One face of the plinth and one of the column show full in elevation. Show exact form of shadow cast by plinth on column by a direct light falling at 45° , as is usual in drawings.

(c) *Senior architectural draftsman*.—First, second, and third subjects same as in architectural draftsman.

DRAWING AND DESIGN.

1. Name eight distinct styles of architecture, and illustrate each by a neat pen-and-ink sketch of some salient feature of the style. 2. Sheet 4a is a sketch plan of the first floor of a post-office building. Draw neatly, in pencil, this first floor plan to one-eighth inch scale, and also make a sketch plan of the second floor to one-sixteenth inch scale in conformity with the requirements noted on sheet 4a. 3. Draw in pencil to one-eighth inch scale, a front elevation of this building, designed either in classic or renaissance style. The building is to be faced with stone. 4. Make in pencil to one-half inch scale, one-half exterior and interior elevations, and full plan of main-entrance doorway, showing in detail both exterior and interior finish. 5. Draw to one-fourth inch scale a vertical section, showing the thickness and construction of front wall from basement to roof, the construction of the fireproof flooring, and the construction at junction of roof and wall.

For questions 2, 3, 4, and 5, a rough-sketch plan of first floor of a public building, together with requirements for second floor space were given.

FREE-HAND DRAWING AND ORTHOGRAPHIC PROJECTION.

Give finished pencil sketches of three of the following-named styles of ornament, selecting one from each list—indicate your selections: 1. Greek or Roman. 2. Byzantine or Norman. 3. Gothic or Renaissance. 4. A cylindrical pipe 8 inches in diameter and 12 inches long, standing on end on the horizontal plane with its axis 12 inches from the vertical plane, is penetrated by another cylindrical pipe 6 inches in diameter and 12 inches long. Their axes bisect each other at right angles. The axis of the smaller pipe is parallel to the horizontal plane and at an angle of 30° to the vertical plane. Draw one-fourth full size plan and elevation showing curves of penetration. Develop larger pipe, showing holes of penetration. 5. A dodecagonal column 3 inches high, and the diagonals of whose base are $2\frac{1}{2}$ inches, stands vertical and has a plinth 4 inches square and 1 inch thick lying flat on top. One face of the plinth and one of the column show full in elevation. Show exact form of shadow cast by plinth on column by a direct light falling at 45° , as is usual in drawings.

SPECIFICATIONS.

Take your drawings made in answer to sheet 4, questions 2, 3, and 4, and—1. Give the headings of the principal subjects to be covered in a specification for such a building. Give also short outline drafts of the specifications for—2. The cut-stone work. 3. The brickwork. 4. The carpenter work. 5. The painting and glazing.

(d) *Structural iron draftsman*.

HIGHER MATHEMATICS AND MECHANICS.

6. Assuming the formula for determining the solidity of a cone as proved, show that the volumes of two similar cones of revolution are to each other as the cubes of their heights. 7. Given two adjacent sides, a and b , of a triangle, and also the included angle C , show how to solve the triangle. 8. Find the points where the straight line $y = 3x + c$ cuts the parabola $y^2 = 4ax$, and the length of the part intercepted. 9. Given $x^2 + y^2 - 3axy = c$; find $\frac{dy}{dx}$. 10. Integrate $\frac{3x-5}{x^2-6x+5} dx$. 11. A 20" I beam, 70 pounds per foot, has $8'' \times \frac{1}{4}''$ plate riveted on the bottom flange. Find the position of the center of gravity, the moment of inertia, and the radius of gyration of the combined section. (Moment of inertia for 20" I beam 70 pounds per foot = 1,220.) 12. A steel plate girder 30 feet long and 3 feet deep carries a center load of 30,000 pounds and a distributed load of 2,000 pounds per foot. If the maximum strain on extreme fibers is 15,000 pounds what is the moment of inertia of the section? 13. A beam 25 feet long has a load of 10,000 pounds at 5 feet from one end and a distributed load of 1,000 pounds per foot. What is the maximum bending moment, and where does it occur? 14. State the theorem of (a) the parallelogram of forces; (b) the parallelopiped of forces, and (c) the resultant of any number of parallel forces. 15. Three forces, A, B, and C, are in equilibrium. Having given the magnitude and direction of A, the magnitude of B, and the direction of C, determine the magnitude of C and the direction of B. When is the solution impossible?

KNOWLEDGE OF MATERIALS, DRAWING, AND DESIGN.

(Use of slide-rule is permitted in computations).

1. Figure the strains on the members of the truss shown below. Assume wind pressure as 40 pounds per square foot horizontal; snow, roof, and covering as 40 pounds per horizontal square foot. Truss is fixed at A and rests on steel built column 20 feet high; free at B, resting on rollers on brick wall. Distance between trusses is 10 feet. To prevent bending of column a knee brace is to be provided. Distance from foot of column to knee brace is 12 feet. Show all your calculations. (A Fink roof truss 100 foot span and 25 foot rise was given.) 2. Show, in pencil, details at A and B, and of foundation of column, so that maximum pressure on subsoil may not exceed 1,000 pounds per square foot. Find, also; strain in knee brace and bending moment on column. 3. (a) Describe briefly the process to which ore is subjected before it is suitable for structural cast-iron work. (b) Name and describe, in detail, one method of making steel. 4. A floor space, 25 by 40 feet clear, is to be covered with a steel beam and girder floor without columns. The total floor load, including weight of floor, is 400 pounds per square foot. Allowing maximum strain on fibers of 15,000 pounds per square inch, show by a neat pen-and-ink figured sketch the most economical and suitable arrangement. Add written notes when necessary. The moment of inertia of 10-inch I beam 25 pounds per foot is equal to 122.5; 10-inch I beam 33 pounds per foot is equal to 161.3; 12-inch I beam 33 pounds per foot is equal to 222.3; 12-inch I beam 40 pounds per foot is equal to 281.3; 15-inch I beam 41 pounds per foot is equal to 424.1; 15-inch I

beam 50 pounds per foot is equal to 529.7; 15-inch I beam 60 pounds per foot is equal to 644; 15-inch I beam 80 pounds per foot is equal to 785.

5. A plate girder 27 feet long and 3 feet deep carries a load of 3,000 pounds per foot and a concentrated load of 50,000 pounds at 6 feet from each end. Proportion the girder to sustain this total load, allowing maximum flange strain of 15,000 pounds per square inch, and shear in web and rivets of 8,000 pounds. Show all your calculations. 6. Make detail drawings, in pencil, of the girder to three-fourths-inch scale. Figure all dimensions and rivet spacing. 7. A column carries, at first-floor level, four beams. The beams are arranged and transmit to the column the loads, as shown on the sketch below. Length of column is 13 feet from base to top of beam at first floor and 25 feet from top of beam at first floor to top of beam at second floor. The column rests on a concrete base and is to be built of plates and angles. Design the column and all connections. Assume strain on column as 10,000 pounds per square inch, shearing value seven-eighths-inch rivets as 6,000 pounds, and bearing value of seven-eighths-inch rivets as 15,000 pounds per linear inch of bearing. Allow pressure on concrete base of 8 tons per square foot. Show all your calculations. 8. Make a drawing, in pencil, of the column, showing all connections and base.

NOTE.—For question 7 the column carries, at first-floor level, four beams at right angles, in pairs, and unequally loaded; at second-floor level three beams, unequally loaded and at 120° to each other, are carried.

(e) *Heating and ventilating draftsman.*—First subject same as in junior architectural draftsman.

PRACTICAL KNOWLEDGE OF HEATING AND VENTILATION.

1. Name the various means employed for warming buildings and briefly describe the principal systems. 2. Describe the construction of the usual style of direct radiators used for low pressure steam heating. 3. State the difference between direct steam radiators and those used for direct hot water heating. 4. Where should automatic air valve be located on a direct steam radiator, and also on an indirect steam radiator? 5. (a) How should flow and return pipes of a low pressure steam heating apparatus be graded? (b) How should similar pipes of a low temperature hot water heating apparatus be graded? (c) How is air expelled from a hot water heating system? 6. Explain the use of eccentric fittings in the pipe system of a steam heating apparatus. 7. What is the relative position of outlets of a 6 by 4 by 2 inch eccentric "T" placed in the main flow pipe of (a) a low pressure steam heating apparatus, and (b) a low temperature hot water heating apparatus? 8. State how globe valves should be placed on horizontal steam flow pipes. 9. Explain the use and operation of automatic air valves on steam radiators. 10. To warm and ventilate a building it is necessary to introduce 570,000 cubic feet of fresh air per hour, which amount of air is to be heated from plus 20° to 110° F. by indirect radiation. The indirect radiation to be used will emit 470 heat units per square foot per hour. How many square feet of indirect radiation will be required?

DRAWING AND DESIGN.

1. (a) Illustrate by freehand sketch how drip pipe from a vertical steam flow riser is run and connected to the corresponding return riser, both flow and return riser being valved. (b) Make a freehand section of a 2-inch globe valve. Sketch to be made approximately full size and clearly show construction of valve. 2. Draw three-fourths inch scale section of an indirect radiator of a low pressure steam heating apparatus, located in a brick chamber in the basement of a building. The indirect radiator to be located and shown in outline only; but connections to same, including valves, cold-air supply duct with damper, hot-air exit flue, construction of ceiling of chamber, manholes, etc., must all be fully illustrated. Drawing to be clear and distinct and to be made in pencil only. 3. Make finished ink drawing, side and end elevation and section through trench and part section of wrought-iron blow-off tank and pipe connections to same, all as illustrated by sketch furnished. End elevation to be taken from line a b; scale to be $\frac{1}{2}$ inch to 1 foot 0 inch.

Sec. 77. *Elevator-conductor, Departmental Service.*—Subjects, third-grade basis and experience. Applicants who have experience as elevator conductors, or as machinists or engineers, will be given a credit for such experience. Time allowed, three hours. Age limit, 20 years or over. Application forms 304 and 394. Entrance salaries from \$360 to \$720. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. For character of third-grade subjects, see sec. 64. Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling.....	16
2. Arithmetic.....	16
3. Letter writing.....	16
4. Penmanship.....	16
5. Copying from plain copy.....	16
6. Experience.....	20
Total.....	100

Sec. 78. *Engineer (steam), Departmental Service.*—For the position of steam engineer in the departmental service no scholastic test is required, but applicants for such positions are graded upon the elements of age, experience and intelligence, character as a workman, and physical ability, as determined by the certificates in connection with application form 394, which applicants are required to have executed in addition to application form 304. Age limit, 20 years or over. (See sec. 116.)

Sec. 79. *Fireman, Departmental Service.*—For the position of fireman in the departmental service no scholastic test is required, but applicants for such positions are graded upon the elements of age, experience and intelligence, character as a workman, and physical ability, as determined by the certificates in connection with appli-

cation form 394, which applicants are required to have executed in addition to application form 304. Age limit, 20 years or over. (See sec. 116.)

Sec. 80. Fish-culturist, Fish Commission.—Subjects, first-grade basis, geography of the United States, and practical questions requiring a thorough familiarity with the general subject of fish-culture. Total time, six and one-half hours. Age limit, 20 years or over. Application form, 304. Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk fish-culturist examination. The examination may be taken on the date and at the places marked D of the schedule, sec 9. There are four classes of fish-culturists, as follows: Those engaged (1) in pond-culture operations; (2) in salmon, trout, and whitefish operations; (3) in marine operations; (4) in shad operations. An applicant taking more than one of these sets of questions in fish-culture is allowed an additional hour for each additional set of questions. A competitor who passes the examination in any of the above classes becomes eligible to the class to which the subject relates. Competitors who pass in all of them become eligible to each class. For character of the first-grade questions, see sec. 62. Below will be found a table of the subjects and weights of this examination, followed by specimen practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Geography.....	10
8. Fish-culture.....	60
Total.....	100

GEOGRAPHY.

1. Name States as follows: Two that border on both the Ohio and Mississippi rivers; two that border on both the Pacific Ocean and Columbia River; two that border on both the Atlantic Ocean and Potomac River; two that border on Lake Champlain; two that border on both the Gulf of Mexico and Mississippi River. 2. Name the largest lake port or seaport in each of the following-named States, and give the body of water on which each port named is situated: Minnesota, Pennsylvania, Texas, California, Maine. 3. Name the river or body of water into which each of the following-named rivers flows: Niagara, Arkansas, Connecticut, Detroit, Lewis (or Snake). 4. Name the river or body of water on which each of the following-named prominent cities is situated: Memphis, Evansville, Hartford, Council Bluffs, Toledo, Milwaukee, Seattle, Mobile, Buffalo, Trenton. 5. Name five States that border on the Mississippi River, and give the capital of each State required.

PROPAGATION OF SHAD.

1. Name ten important shad streams of the United States. 2. (a) What is the spawning season of the shad in (1) North Carolina, (2) New Jersey, (3) Maine? (b) At what time of day do shad usually spawn? 3. State the approximate size and the character of the shad egg and the average number of eggs yielded per fish. 4. In what range of temperature does the shad spawn? What is the average hatching period at a given temperature? 5. Describe in detail (1) the methods employed in taking and fertilizing shad eggs, and (2) the apparatus and (3) methods used in hatching.

POND CULTURE.

1. Name the fishes cultivated in ponds in the United States (eggs not artificially impregnated). 2. (a) Give the principal natural enemies of pond fishes. (b) Of what advantages are water plants in ponds? 3. State the spawning season and habits of any important pond fish, the relative number and character of the eggs, and the period of incubation. 4. What attention from the fish-culturist is required by (1) the eggs and (2) the newly hatched young of any given pond fish? 5. Discuss the artificial food and feeding of pond fishes.

PROPAGATION OF SALMONIDÆ.

1. (a) Name six native members of the salmon family artificially propagated in the United States. (b) Name two introduced fish of the same family that are cultivated. 2. Give the natural spawning season, habits, and grounds of any important species of this group. 3. Describe the methods of obtaining and fertilizing the eggs of any fish of this family. 4. Describe in detail the form and operation of the apparatus used in hatching the eggs of the foregoing species. 5. (a) What is the average time required for the hatching of the eggs at a given temperature? (b) How are its eggs packed for shipment?

MARINE OPERATIONS.

1. What are the spawning seasons of cod and lobster on the United States coast? 2. Describe the methods of taking, impregnating, and shipping cod eggs from field stations to the hatchery. 3. Describe in detail the apparatus used in hatching cod and flatfish eggs. 4. What is the geographic range of the mackerel on the coast of North America? 5. At what season of the year do lobsters spawn, and for how long a period do they carry their eggs?

Sec. 81. Guard, United States Penitentiary.—The subjects of this examination are the same as the third-grade basis (see sec. 64) with the addition of the subject of experience. Time allowed, three hours. Application forms, 304 and 1036. Salary, \$60 per month. This examination will be given only when vacancies occur. The Department desires men not less than 22 nor more than 50 years of age, who are not less than 5 feet 9 inches in height, and who weigh not less than 150 pounds, who are possessed of sound physical health, good moral character and undoubted honesty, great personal courage, a kindly but firm disposition, sound judgment and discretion, an inclination to faithfully carry out the orders of a superior, a personality and characteristics which would command respect and obedience of persons in their custody, and a temperament calculated to gain the confidence and friendship of prisoners in their charge. Those who are not shown by the evidence presented to possess these preliminary qualifications will not be admitted to the written examination. In determining the general average of the competitors the educational examination will be given a weight of 70 per cent, and the element of experience or practical fitness a weight of 30 per cent.

Sec. 82. Immigrant inspector, Departmental Service.—Subjects, second-grade basis and practical questions appropriate to the duties of the special position in which a vacancy exists and on the provisions of the immigration laws. Age limit, 20 years or over. Application form, 304. The examination will be given only when a vacancy exists, and will be announced in the public press. The examination can not be taken on regular dates, and no applications for it will be received until a special examination has been announced. For character of second-grade questions see sec. 63. No specimen practical questions can be furnished. It may be said, however, that the practical questions will be weighted heavily in the examination.

Sec. 83. Inspector and assistant inspector, Bureau of Animal Industry (Meat inspector).—Subjects, second-grade basis, with practical questions requiring a thorough knowledge of veterinary anatomy and physiology, veterinary pathology, and meat inspection. Time allowed, seven hours. Age limit, 20 years or over. Application forms, 304 and 375. This examination may be taken on the date and at the places marked D in the schedule, sec. 9. *Applicants for this examination must be graduates of veterinary colleges, and this fact must be shown in answer to "Question 12" of the application form.* Applications received from persons who are not such graduates will be canceled. The entrance salary is from \$1,200 to \$1,400. For character of the second-grade questions, see sec. 63. Below will be found a table of subjects and weights, followed by specimen practical questions, indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Veterinary anatomy and physiology.....	10
7. Veterinary pathology.....	25
8. Meat inspection.....	40
Total.....	100

VETERINARY ANATOMY AND PHYSIOLOGY.

1. Point out the differential anatomical characteristics in the liver and also in the kidney of (a) cattle, (b) sheep, (c) swine. 2. Describe the lymphatic system and give its functions.

VETERINARY PATHOLOGY.

1. What diseases may attack the bones of food-producing animals? 2. What two important diseases of cattle are caused by fungi? Give the pathology characteristic of each. 3. Name two important animal parasites found in cattle and the diseases produced by them in cattle; also two important animal parasites found in swine and the diseases produced by them in swine. Give the pathology in each one named. 4. Of what diseases or conditions of cattle is jaundice a symptom? 5. What is anemia? In what diseases of sheep does this condition commonly occur?

MEAT INSPECTION.

1. What are the symptoms of rabies in bovine animals? With what diseases may rabies be confused? 2. How may tuberculosis be detected (a) in the living animal, (b) by examination of the carcass, excluding the viscera? 3. Describe the appearance in the carcass, excluding the viscera, by which (a) Texas fever, (b) hog cholera, (c) anthrax, may be detected. For what diseases (one for each) may they be mistaken? 4. Name some of the conditions and also the specific infectious diseases which may cause hæmoglobinuria. How could a specific disease be definitely determined as a cause? 5. Enumerate the symptoms of parturient fever. State whether the meat of a cow thus affected is fit for food, and the reasons for the answer given.

Sec. 84. Law clerk, Departmental Service.—Subjects, first-grade basis and practical questions upon different features in nearly the entire field of law, with the exception of technical rules of practice and statutory laws not common to all the States. In difficulty it will be about equal to an average examination for admission to the bar. The time allowed, two days of five hours each. Age limit, 20 years or over. Application forms, 304 and 375. Applicants for this examination who desire their names entered also on the clerk register (see sec. 72) should apply for the clerk-law clerk examination. Examination may be taken during the *spring* examinations on the date and at the places marked D on the schedule, sec. 9. It may *not* be taken in the fall. From this examination certification will be made to fill vacancies in the lower-grade law positions, and also, upon request of the appointing officer, to fill vacancies in clerical positions in which legal qualifications are desirable, with the expectation that persons thus appointed from this register will be eligible for promotion to the higher-grade law positions upon passing a supplemental examination in the law peculiar to the administration of the office in which such positions may be. The Commission can not undertake to say how generally this policy of filling clerical positions from the law-clerk register will be adopted, but it is expected that it will be followed to some extent, at least, so that those who pass the examination will be eligible to appointment to low-salaried positions, with a prospect of promotion to higher-grade law positions.

Whenever a vacancy occurs in a higher-grade law position, which is not filled by promotion, transfer, or reinstatement, those whose names are on the law-clerk register will be notified to appear, if they so desire, for a supplemental examination in the law applicable to the office in which the vacancy exists, upon passing which they will become eligible for appointment to such vacancy. For character of the first-grade questions see sec. 62. Below will be found a table of subjects and weights, followed by specimen practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Law.....	70
Total	100

LAW.

1. (a) When one statute is repealed by another, of what effect, if any, is the repeal of the repealing statute? (b) State three leading principles governing the construction of statutes. 2. (a) What power is granted by the Constitution as to the creation of United States inferior courts? To whom is it granted? (b) How far has the power called for in (a) been exercised, and which was the last instance of its exercise? 3. (a) If part of a law is unconstitutional, how are the other parts affected? (b) Under the judicial construction placed upon the *habeas corpus* clause of the Constitution, in whom only is the right to suspend the writ? 4. (a) State the essential distinction between common law and equity. (b) Name eight of the enumerated powers of Congress. 5. (a) Show by means of examples the distinction between *competency* of evidence and *sufficiency* of evidence, and state by whom each is determined. (b) What is the rule as to hearsay evidence? Name two reasons for the rule. 6. (a) Explain the doctrine of *res gestæ*. Illustrate. (b) Name four classes of matters of which the courts take judicial notice.

7. (a) What is the general rule as to a party's impeaching his own witness? Give the reason for the rule. (b) State whether or not in general a witness may be questioned as to collateral facts, and give the general rule as to the production of testimony which governs in such a case. 8. (a) State briefly the conditions which gave rise to courts of equity. (b) A testator died, never having had but three sons, John, William, and James. He left his entire estate to his sons, naming them in his will as John, William, and Frederick. How should the will be construed? What is the rule of law as to a patent ambiguity? What as to a latent ambiguity? 9. (a) A agrees to sell B certain goods and passes the title to them. The goods can not be duplicated and are of peculiar value to B. A refuses to deliver the goods. What remedy, if any, has B at law? What at equity? Name one ground of equitable jurisdiction. (b) When, if ever, will courts of equity entertain the question of inadequacy of consideration? 10. (a) In what respect does a mortgage differ from a deed, and what is meant by an equity of redemption? (b) What underlying principle requires that a deed be recorded? Name an instance in which a duly executed and recorded deed would be void, although the title of record was in the grantor at the time of the delivery of the deed. 11. (a) What is the paramount principle observed by courts in construing a will, and what portion of a will is construed under the law, and what portion under equity? (b) How, and by whom, is the estate of a person administered who dies intestate? What is meant by widow's right of dower.

12. (a) A, who is divorced, is prohibited in the decree from remarrying. He subsequently marries in another State. Under what circumstances, if any, is this marriage good? (b) Who is the natural guardian of a minor, and over what does such guardianship extend? What is guardianship *ad litem*? 13. (a) What invariable rule may be applied to determine whether or not a legal partnership has been

created! State a case, and apply the rule. (b) How far does the act of an officer of a corporation bind the shareholders? Upon what general principle of law does the act of one partner bind the other partners? 14. (a) Name four essentials to a valid contract. (b) Who, if anyone, may dispute the consideration of a contract under seal? 15. (a) Name three kinds of bailment. Explain a common carrier's liability in respect to goods, and his liability in respect to persons. (b) A, a prisoner, has reason to be apprehensive of ill-treatment from the sheriff, and promises in writing, under seal, to pay the sheriff \$100 if he will release him. The prisoner is duly tried and the sheriff releases him by order of the court. A refuses to pay. Can the sheriff maintain suit? Give in full the reasons of your answer.

16. (a) A fires at B a pistol, which, unknown to B but known to A, contains only a blank cartridge. The instant following B fatally shoots A. In a trial for manslaughter, what, if any, good defense may B have? Give reason for your answer. (b) By what general rule should the jury be governed in criminal cases? A prisoner is brought to trial under a statute which declares his act to be a crime, but fails to affix penalty therefor. What should be the action of the trial court? 17. (a) When, if ever, does the judgment of a court bind persons outside of its jurisdiction? (b) Under what circumstances may a cause of action arising and commenced within the jurisdiction of one court be originally tried by a court of another jurisdiction within the same State? 18. (a) Explain and illustrate the distinction between guaranty and surety. (b) Upon a note payable on demand and containing no interest clause, when does the statute of limitation and when does interest begin to run? 19. (a) Explain in full what is meant by exemplary damages. Illustrate. (b) A person hires a horse to go to a certain place, but goes to another place. The horse is accidentally injured, and the bailee refuses to pay for the hire of the horse. Of what offense is the bailee guilty? What is the full recourse of the bailor? 20. (a) Under the law of pleading, what, in full, is meant by a variance? What is its effect? Illustrate. (b) Does a demurrer raise a question of law or of fact? By whom is it heard? What is the effect of a demurrer if sustained? Illustrate.

Sec. 85. Map printer, Departmental Service.—Subjects, third-grade basis; practical questions; and experience. Time allowed, four hours. Age limit, 20 years or over. Application forms, 304 and 394. Applicants who have had experience in the class of work for which they are examined will be given a credit. *This examination will be given only when vacancies occur.* For character of third-grade questions, see sec. 64. No specimen practical questions can be furnished. Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Practical questions.....	40
7. Experience.....	35
Total.....	100

Sec. 86. Mechanical draftsman, Departmental Service.—As the qualifications required of mechanical draftsmen are in many cases special, it is not practicable to give specific information as to the length of time required, the subjects and weights for these examinations. Examinations will be held only when vacancies occur in any of the Departments, and due notice will be given by advertisement of the subjects and weights in each special case. The subjects covered will be (1) letter writing; (2) pure and applied mathematics; (3) practical calculations; (4) knowledge of materials; (5) drafting, and (6) technical education and experience. The draftsman examination for the Patent Office, however, will remain as before, viz: Letter writing, 10 per cent; arithmetic, special, 15 per cent, and drafting, 75 per cent. *No applications for this examination will be accepted until an examination is announced.*

Sec. 87. Messenger, Departmental Service.—The subjects of this examination are identical with those of the third-grade basis. Time allowed, three hours. Age limit, 18 years or over. Application form, 304. Entrance salary, from \$360 to \$720. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. For character of the third-grade questions, see sec. 64.

Below will be found a table of subjects and weights of this examination:

Subjects.	Weights.
1 Spelling.....	20
2. Arithmetic.....	20
3. Letter writing.....	20
4. Penmanship.....	20
5. Copying from plain copy.....	20
Total.....	100

Sec. 88. Messenger-boy examination, Departmental Service.—The subjects of this examination are identical with those of the third-grade basis. Time allowed, three hours. Age limit, 14 to 20 years. Application form, 304. Entrance salary, \$300. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. For character of the third-grade questions, see sec. 64. Below will be found a table of subjects and weights of this examination:

Subjects.	Weights.
1. Spelling.....	20
2. Arithmetic.....	20
3. Letter writing.....	20
4. Penmanship.....	20
5. Copying from plain copy.....	20
Total	100

Sec. 89. Model-repairer, Departmental Service.—Subjects, third-grade basis, practical questions and experience. Time allowed, four hours. Age limit, 20 years or over. Application forms, 304 and 394. *This examination will be given only when a vacancy exists.* For character of third-grade subjects, see sec. 64. Below will be found a table of the subjects and weights, followed by specimen practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	4
2. Arithmetic.....	4
3. Letter writing.....	4
4. Penmanship.....	4
5. Copying from plain copy.....	4
6. Practical questions.....	40
7. Experience.....	40
Total	100

PRACTICAL QUESTIONS.

1. (a) How is the diameter of a cogwheel measured? (b) Two intermeshing cogwheels have 14 and 91 teeth, respectively. How many revolutions will the second wheel make while the first revolves 13 times? (Explain fully how the result is obtained.) 2. Explain the construction and operation of a screw-cutting lathe. 3. Explain how a die and a straight punch are to be used in making a tapering hole in a metal plate. 4. How should a chisel be tempered if it is to be used for cutting (a) brass, (b) cast iron, (c) wrought iron? (d) What liquids are commonly employed in the process of tempering? (e) How may brass be annealed? 5. Describe two methods by which nuts or burrs which have become rusty and tight may be loosened when the ordinary wrench fails to loosen them on first trial. 6. How should tools be sharpened and tempered for, and what lubricants, if any, should be used in the drilling of (a) cast iron, (b) wrought iron, (c) steel, (d) brass? 7. What bath will remove old lacquer from metal? 8. The piston rod of an engine being bent, explain in detail how it is straightened, and how it is determined whether it is perfectly straight. 9. (a) What are two kinds of solder? (b) Which kind should be used for uniting pieces of copper? (c) If an easily fusible metal is to be soldered, which kind should be employed? Why? (d) What is the function of a flux? (e) What may be done to prevent the rusting of the work that is being soldered? 10. (a) State how work should be prepared for gluing. (b) What should be the condition of glue when it is applied? (c) When should white glue and when should dark glue be employed?

Sec. 90. Modern languages, Departmental Service.—Subjects, first-grade basis and translation of modern languages. Time allowed for basis and one language, seven hours; for each additional language, two hours. Age limit, 20 years or over. Application form, 304. Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk-modern languages examination. This examination will be given only at the semiannual examination in the *spring*, on the date and at the places marked D in the schedule, sec. 9. It may not be taken during the fall series of examinations.

Applicants must specify in their applications which modern language or languages they desire to take. The languages which may be selected are Danish, French, German, Italian, Spanish, and Swedish. The scope of the examination is identical for all the languages. The examinations are divided into three parts of equal weight. The first part consists of two short extracts taken from contemporaneous foreign works or magazine articles. Each of these extracts consists of about 80 words, and the competitor is required to translate them into English without the use of a dictionary. The second part is like the first in character, scope, and length. The extracts, however, are selected from works or magazine articles by English or American authors, and are to be translated into the foreign language without the use of a dictionary.

The third part consists of exercises to be corrected in orthography and syntax. The exercises selected aggregate about 160 words, and are chosen for the especial purpose of testing the accuracy and extent of the competitor's knowledge of the grammatical construction and the idioms of both the languages involved. In the translations the competitor must adhere as closely to the text as the idiomatic usage of the different languages will permit.

For character of first-grade questions, see sec. 62. Below will be found a table of subjects and weights, followed by specimen exercises in modern languages, indicating the scope of the examination:

Subjects.	Weights.
1. Spelling	5
2. Arithmetic	5
3. Letter writing	5
4. Penmanship	5
5. Copying from plain copy	5
6. Copying from rough draft	5
7. Modern language	70
Total	100

The following are specimen examinations in French and German. The examinations in the other languages are of similar scope and character.

Make a close translation of the following into idiomatic English:

(a) J'avais joué, à diverses reprises, de sa conversation brillante, de son esprit éloquent et informé sur toute chose; mais combien plus je le goûtais ce soir-là! Il restait avec moi mon voyage, il s'anima, il laissa transparaître ce fond de nature poétique et passionnée, don gratuit de la race, qui voilait d'abord chez lui la convention mondaine. "Votre chagrin me plaît," dit-il, "car il y entre de l'amour. N'en doutez pas. Vous aimez l'Espagne; vous reviendrez à elle. Alors vous discuterez ce que vous avez justement aperçu."

(b) Un domestique à cheveux gris, vêtu de noir, que j'ai trouvé dans le vestibule, a pris mon nom. J'ai été introduit, quelques minutes plus tard, dans un vaste salon tendu de soie jaune, où j'ai reconnu d'abord la jeune personne que je venais de voir à la fenêtre, et qui était définitivement d'une extrême beauté. Près de la cheminée, où flamboyait une véritable fournaise, une dame d'un âge moyen, et dont les traits accusaient fortement le type créole, se tenait ensevelie dans un grand fauteuil compliqué d'édredons, de coussins et de coussinets de toutes proportions. Un trépidé de forme antique, que surmontait un brasero allumé était placé à sa portée, et elle en approchait par intervalles ses mains grêles et pâles.

Make a close translation of the following into idiomatic French:

(a) The place of our retreat was in a little neighborhood consisting of farmers, who tilled their own grounds, and were equal strangers to opulence and poverty. As they had almost all the conveniences of life within themselves, they seldom visited towns or cities in search of superfluities. Remote from the polite, they still retained the primeval simplicity of manners; and frugal by habit, they scarcely knew that temperance was a virtue. They wrought with cheerfulness on days of labor, but observed festivals as intervals of idleness and pleasure.

(b) On the day of which I speak, Jim was very talkative, and unfolded to me his whole history. It seems that he was the son of a French carpenter, brought up and married on the other side, who had immigrated to this country to be employed, for the rest of his life, in Philadelphia.

Make a smooth copy of the following, correcting all errors in syntax, orthography, etc. No changes are permitted except those necessary to correct errors:

Quoi que, ni les hautes sciences, ni les beaux-arts ne sont entrées dans mon plan, j'ai donné jusqu'à présent un aperçu de leurs progrès dans chaque siècle, et cet aperçu devient plus indispensable dans celui-ci. Un résumé général offrira, en finissant, le tableau du mouvement extraordinaire de l'esprit humain, et de ses efforts dans toutes les genres pendant le cours de ce belle siècle. J'ai peut-être de craindre, dans ce traité de la poésie épique italienne, le plus complet, si j'ose le dire, qui a encore paru, à fatiguer le lecteur par un trop grand nombre d'analyses et par des extraits multipliés de poèmes qui sont loin d'inspirer toute le même intérêt. J'espère cependant que la nouveauté de la plupart des objets, d'après leur ancienneté même, la proportion que j'ai tâché de mettre entre l'étendue des extraits et l'intérêt des ouvrages, entre le ton des uns et la nature des autres, les divisions que j'ai établies et les différents groupes qu'elles présentent, selon les époques et les genres, prévient la fatigue en soutenant l'attention.

Make a close translation of the following into idiomatic English:

(a) Diesen Grund hätte Anna freilich niemals errathen. Allein sie war feinführend genug, um sich über die zweifache Lücke in des Bräutigams Briefen recht gründlich zu ängstigen, andererseits aber auch wieder zu feinführend, um sich durch Fragen und Vorwürfe Licht zu verschaffen. Acht weibliche Naturen sind jedoch in der Regel entschlossenen Geistes, und je weniger man hinter ihrem stillen Walten Willenskraft und Eigensinn vermuthet, um so mehr besitzen sie. So war es auch bei dem sanften, bescheidenen Fräulein.

(b) Die bedeutendste Erwirkung von aussen hat Afrika durch die Araber erfahren. Schon in vorchristlicher Zeit setzten sich arabische Stämme im Oberniltal und im Ostthorn des schwarzen Erdtheils fest, nach und nach Seeleute von Jemen bis zur Sofala und Madagaskar vor, und in einem späteren Zeitalter, nach dem Aufdauern des Islams, schlugen die Wogen der arabischen Bewegung bis an die Küsten des atlantischen Meeres.

Make a close translation of the following into idiomatic German:

(a) The moment he succeeded to the paternal farm he assumed a new character, took a wife, attended resolutely to his affairs, and became an industrious, thrifty farmer. With the family property he inherited a set of old family maxims, to which he steadily adhered. He saw to everything himself; put his own hand to the plow; worked hard; ate heartily; slept soundly; paid for everything in cash down, and never danced unless he could do it to the music of his own money in both pockets.

(b) The life, the travels, and the actions of Peter the Great exhibit a surprising contrast to the manners which prevail among us, and which are, perhaps, rather too delicate; and this may be one reason why the history of this famous man so much excites our curiosity.

Make a smooth copy of the following, correcting all errors in syntax, orthography, etc. No changes are permitted except those necessary to correct errors:

Trotz aller Wechsel des Moders und der Politik trüg er fortahn seinen Zopf, nicht als den Zopf des ruckschrittes, sondern als den Zopf der Eigensinne. Unzufrieden mit jeden bestehende Zustände, hegte und voredelt er zwar getruelich sein Ideal einer besseren Zeit, allein niemals gelangte es ihn derselbe der angegebene Weltlagen anzupassen; es fehlte ihm eben funf jahre erlebten geschickte, in weichen der Schlusel für die ganze nachste Zukunft lagen.

Die Folge waren eine neue endlöse Correspondenz zwisten beiden Regierungen. Gleichgiltig versaumte Reinhold nicht, seine Berichte über tagliche Vorkommisse fortsetzen, aus denen der Kaiser entnehmen Könnte, wie wenig Hof und Regierung es verstanden, das Volk zu gewinnen. In eine Bericht vom 28 April ist eine ganze Reihe solche Thatsachen zusammen getragen. Der schöne Angarten ist dem Publicum fast unzugänglich gewesen, weil der Großjägermeister dort Rebhühner heegt.

Sec. 91. Observer, Weather Bureau, Departmental Service.—Subjects, first-grade basis, practical questions in meteorology, requiring a fair knowledge of that subject; essay writing, consisting of an essay on a practical subject in meteorology and geography of the United States. Time allowed, eight hours. Age limit, 20 years or over. Application form, 304. Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk-observer examination. This examination may be taken on the date and at the places marked D, schedule, sec. 9. For character of the first-grade questions, see sec. 62. Below will be found a table of subjects and weights of this examination, followed by specimen practical questions, indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Meteorology.....	40
8. Essay writing.....	20
9. Geography.....	10
Total.....	100

METEOROLOGY.

1. Give the composition of the atmosphere. 2. Why are barometric observations corrected for temperature and elevation? 3. How is the force and velocity of the wind measured? 4. Give the conditions favorable for the formation of dew and frost. 5. What is understood by the term "cyclone?" Make a diagram showing direction of surface winds within its area. 6. Give the causes of rainfall. 7. What are clouds? Into what principal classes are they divided? 8. What are the principal steps in the construction of a standard thermometer? 9. What is a river gauge? Explain its construction. 10. How is atmospheric pressure measured? Explain the construction of the instrument.

ESSAY WRITING.

Write an essay of not less than 300 words on the relative climatic advantages of the different portions of the United States from a sanitary point of view, and also as regards crop productions.

GEOGRAPHY.

1. Name two States which border Massachusetts on the south; two Territories which border on Texas; two States which border Montana on the south; two States which border Illinois on the west; two States which border Pennsylvania on the south. 2. In what State is situated (wholly or in part) each of the following named: Wahsatch Mountains, Schoodic Lakes, Ozark Mountains, Mount Baker, Seneca Lake, Lake Okechobee, Mount Mitchell, Lake of the Woods, Mount Katahdin, Tulare Lake. 3. Name the capital and the largest city of each of the following named States: Michigan, New Hampshire, South Carolina, South Dakota, Kentucky. 4. Name a river and a large body of water (not a river) which border on each of the following named States: New Jersey, Vermont, Indiana, Louisiana, Oregon. 5. In what State is each of the following named prominent cities: Rockford, Butte, Lynn, Utica, Macon, Fond du Lac, Ogden, San Antonio, Sandusky, Scranton.

Sec. 92. Pension agencies.—Vacancies in the positions in pension agencies throughout the country will be filled from the clerk or other appropriate registers of eligibles, and it is not expected that any special examinations for these agencies will be held.

Sec. 93. Pension examining surgeon, Departmental Service.—Pension examining surgeons whose salaries amount to as much as \$300 per annum are classified, and vacancies can be filled only after examination and certification by the Civil Service Commission. Applicants must be graduates of reputable medical colleges, above the age of 20 years, and not barred by State or other laws. It is desirable that members of boards should reside near the places of meeting, and registers of eligibles will be made up by districts. Application forms 304 and 375. Time allowed,

seven hours. This examination *will be given only when vacancies occur*. Below will be found a table of subjects and weights, indicating the scope of the examination:

Subjects.	Weights.
1. Thesis	15
2. Anatomy and physiology	15
3. Physical diagnosis	25
4. General and special pathology	25
5. Surgery	20
Total	100

THESIS.

Write a thesis of not less than 250 nor more than 500 words, describing in detail the method or methods by which a thorough and complete examination may be made to determine the precise physical condition of an applicant for a pension.

ANATOMY AND PHYSIOLOGY.

1. Give the anatomy of the bladder, including location, relations, structure, vessels, and nerves. 2. Referring to the topography of the abdomen, locate definitely the following-named organs: (a) Appendix vermiformis; (b) spleen; (c) gall bladder; (d) duodenum; (e) ureter, and give the functions of any two of them. 3. Describe in detail the gross anatomy of Poupart's ligament, and define its importance with reference to the diagnosis of hernia. 4. Map out on the exterior of the body, by anatomical points, the boundaries of the lungs. 5. Describe the physiologic action of alcohol. To what diseases does the excessive use of alcoholics predispose, and why?

PHYSICAL DIAGNOSIS.

1. On physical examination of the thorax what conditions are indicated by the following: (a) Absence of vesicular murmur; (b) absence of vocal resonance; (c) absence of vesicular resonance; (d) absence of vocal fremitus? 2. Give a differential diagnosis between sunstroke and apoplexy. Give the sequelæ of each disease. 3. How may it be determined that a malingering is feigning (a) total deafness; (b) paralysis; (c) epilepsy? 4. What valvular lesions of the heart are indicated by the following murmurs: (a) Systolic; (b) diastolic; (c) presystolic. Describe the further diagnostic characteristics of the murmur produced by each lesion. 5. What are the principal diseases with which eczema may be confounded?

GENERAL AND SPECIAL PATHOLOGY.

1. Enumerate the causes of passive congestion. 2. What is retinitis? Describe its appearances. How is the examination made for this lesion, and what diseases are indicated by its presence? 3. Give the causes and pathology of the sclerosis of the spinal cord and name the varieties. 4. Describe catarrhal inflammation, giving its pathology. 5. Give the etiology and pathology of cirrhosis of the kidney.

SURGERY.

1. Discuss the remote effects of gunshot wounds. 2. Name the surgical sequences of inflammation. 3. Give a differential diagnosis between hernia and each of the following, viz: (a) Varicocele; (b) hydrocele; (c) aneurism in the inguinal region. 4. Give the pathology and causes of ankylosis and name the varieties. 5. Discuss syphilis of the brain and of the spinal cord.

Sec. 94. Post-office inspector.—All vacancies in the position of post-office inspector for many years have been filled by the transfer or promotion of persons in the classified service, and hence the examination can not be given to those outside of the service, nor can it be given to persons in the classified service, unless such persons are first nominated for transfer or promotion by the Postmaster-General. All inquiries in reference to this position should be addressed to the Postmaster-General. No specimen questions can be furnished.

Sec. 95. Printer's Assistant, Departmental Service.—This examination embraces an educational test, consisting of the third-grade basis subjects (see sec. 64), a physical examination, and the prior experience of the applicant in similar work. The educational test shall count as 50 per cent, the physical examination as 40 per cent, and the subject of experience in similar work as 10 per cent of the whole examination. The physical examination will be conducted by a medical board, to be composed of one representative from the Commission, one from the Bureau of Engraving and Printing, and one from the Treasury Department proper. All applicants who successfully pass the physical examination will be admitted to the educational examination. Time allowed, three hours. Age limits, 18 to 35 years. Application form, 304. This examination will be held *only at Washington, D. C.*, on the date for the third grade examinations. Salary, \$1.25 per diem.

Sec. 96. Promotion, Departmental Service.—Persons who have occupied classified positions in the departments at Washington, below the grade of clerk, for at least two years, entrance to which is through educational examinations, may be examined for

promotion at Washington. The subjects and specimen questions for this examination are the same as are given in section 62 for the first-grade basis. Persons passing this examination at a grade of 70 per cent or more will be allowed credit for efficiency. Time allowed, five hours. Age limits, 20 years or over. Application blank, Form 372 for the apportioned service and 304 and 372 for the nonapportioned service. This examination *may be taken at Washington, D. C., only*, and on the date of the departmental clerk examination. (See sec. 9.)

Attention is invited to the fact that each application for promotion must bear the certificate and be accompanied by the efficiency rating of the applicant from the chief clerk of the department in which the applicant is serving.

Persons in the nonapportioned departmental service (Bureau of Engraving and Printing and Mail-Bag Repair Shop) who are legal residents of States or Territories which have received 100 per cent of their shares of appointments will not be examined.

Sec. 97. Proof reading, Departmental Service.—Subjects, first-grade basis, practical questions in proof reading, and a test in the correction of proof. (For proof reader in the Government Printing Office see section 139.) Time allowed, six and one-half hours. Age limit, 20 years or over. Application form, 304. Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk-proof reading examination. This examination may be taken on the date and at the places marked D in the schedule, sec. 9. For character of first-grade subjects see sec. 62. Below will be found a table of the subjects and weights, followed by specimen practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Proof reading—practical questions.....	20
8. Proof reading—correction of proof.....	50
Total.....	100

PRACTICAL QUESTIONS.

1. Make and name: (a) Three marks used in denoting accent; (b) five characters used as reference marks to footnotes; (c) ten punctuation marks. 2. Compared with an em quadrat, what is the relative thickness of an en quadrat and of a 3-em space? Explain the meaning of each of the following: Live matter, logotype, thick space, thin space, hair space. 3. Name and define five parts of speech, and give a word to illustrate each part of speech named. 4. What is meant by the superior character, and what by an inferior character? How are these characters indicated in proof? 5. (a) What is meant by the "point system"? (b) What mark is used to indicate an ellipsis? What does an ellipsis denote? 6. Make ten proof reader's signs, and give the use of each in correcting proof. 7. Give two synonyms (not the definitions) of each of the following: Similar, contentious, agreement, reproduce, rejection, relief, condemn, inspire, reparation, transient. 8. Write in full the word or words represented by the following signs or abbreviations: £; A1; %; MSS.; 12mo.; H. R.; e. g.; vis; 8vo; cwt. 9. Write the following sentences, with such changes only as are necessary to correct errors in syntax and in the use of words: The introduction of such beverages as tea and coffee have not been without their effect. Indeed, neither he nor the great Mr. Addison were intended by nature to be kings of men. 10. Write a title-page for the academic edition of the History of the United States, prepared by John Clark Ridpath, A. M., LL.D., especially for schools, with publisher's imprint attached.

CORRECTION OF PROOF.

In this exercise the competitor is required to apply his knowledge of orthography and syntax, of the use of punctuation marks and proof reader's marks, and of the different kinds of type, etc., in the correction of an actual sheet of proof furnished him. No specimen of this test can be given.

Sec. 98. Pupil nurse, Freedman's Hospital.—No educational tests are given for this position, but applicants are rated on the elements of age, experience, and physical condition as shown by the sworn statements and vouchers furnished in the application. Age limit, 20 years or over. Application forms, 304 and 394. It is the practice to appoint only young unmarried colored women who are able to read and write. They are allowed \$5 a month for necessary expenses, together with board and room, and are given a thorough training in the duties of a professional nurse. Further information may be obtained in reference to the duties of the position by writing to the surgeon-in-chief, Freedman's Hospital, Washington, D. C.

Sec. 99. Secret-service examinations, Treasury Department.—Vacancies in all positions in the secret service, Treasury Department, when not filled by promotion, reinstatement, or transfer, will be filled by certification from some existing register of eligi-

bles, or as the result of special examination. It is expected that positions pertaining to the detective work of the Department will be filled by the transfer or promotion of persons already in the classified service. No applications will be received for these positions until an examination is announced.

Sec. 100. Shipping commissioner, Departmental Service.—Subjects, the first-grade basis (see section 62), or the second-grade basis (see section 63), according to the importance and location of the position to be filled; elementary bookkeeping and accounts, and practical questions requiring a knowledge of the duties of shipping commissioner. In addition to these subjects, applicants will be rated on experience in lines of duty or occupation which would tend to fit them for the position sought. This experience will be given a weight of one-fourth the entire examination. Time allowed, seven or six hours, dependent upon the grade of basis questions used. Age limit, 20 years or over. Application form, 304. This examination will be held only when vacancies occur, and no applications for it will be accepted until it shall be announced through the public press. For subjects of the first and second grade basis, see sections 62 and 63. Below will be found a table of the subjects and weights of this examination, followed by a set of practical questions which were used in an examination recently held at Rockland, Me., which give some indication of the scope of similar examinations which may be given in the future:

Subjects.	Weights.
1. Spelling.....	6
2. Arithmetic.....	6
3. Letter writing.....	6
4. Penmanship.....	6
5. Copying from plain copy.....	6
6. Practical questions.....	30
7. Elements of bookkeeping and accounts.....	15
8. Experience.....	25
Total.....	100

PRELIMINARY QUESTIONS.

1. Name any special qualifications which you believe you possess for the office of shipping commissioner at Rockland. 2. State what practical experience you have had with shipping or seamen which may render you particularly useful in the shipping commissioner's office. 3. Have you any direct or indirect pecuniary interest in any saloon, boarding house, or store at which seamen ordinarily obtain clothing or supplies in Rockland?

PRACTICAL QUESTIONS.

1. For what general purpose has the Government established shipping commissioners? 2. What are the five general duties of shipping commissioners, as prescribed in section 4508 of the Revised Statutes? 3. Under what conditions does a shipping commissioner decide questions between a master, consignee, agent or owner, and members of the crew? 4. (a) What are allotments of wages? (b) What is the maximum allotment? (c) To whom may allotments be made? 5. If asked by a master to furnish him with a crew of fifteen men, what steps would you take as shipping commissioner at Rockland to obtain the crew? 6. Who first signs the shipping articles? 7. Name four of the eight particulars which must be stated in the shipping articles. 8. What penalty is imposed for demanding from a seaman any remuneration for providing him with employment? 9. What steps would you take toward punishing a man who had exacted money from a seaman for providing him with employment? 10. Mention any improvement which you believe could be made in the administration of the shipping commissioner's office at Rockland.

ELEMENTARY BOOKKEEPING AND ACCOUNTS.

On March 1, 1897, Abner West, a sailor, owed William Brown, a general merchant, a balance on account of \$21.86. During the month they had the following transactions: March 3, West paid \$10 on account. March 5, West bought on account 20 pounds sugar at 5½ cents; 6 pounds rice, at 7½ cents; 1 sack flour for \$1.45. March 8, West gave his check for \$5 to Brown on account. March 9, West worked 1 day for Brown, for which Brown allowed him \$1.50 on account. March 10, West bought of Brown a suit of clothes for \$15. March 11, Brown bought of West a gold watch for \$32. March 23, West bought of Brown 2 barrels apples, at \$3.50 per barrel; 2 pounds coffee, at 14½ cents; 1½ pounds tea, at 60 cents, and 12 pounds ham, at 12½ cents. March 25, West complained that the apples were not in good condition and Brown allowed a discount of 25 per cent. March 27, West bought one-half barrel flour at \$3 per barrel, and 1 pair shoes for \$2.50. Make an itemized statement of this account as it should appear from the books of Brown, the merchant; make a proper heading; close the account, and bring down the balance as it should appear April 1, 1897.

Sec. 101. Skilled laborer, Departmental Service.—Subjects are the same as for the third-grade basis. Time allowed, three hours. Age limit, for females, 18 years or over; for males, 20 years or over. Application form, 304. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, section 9. Vacancies in positions of skilled laborer are filled by certification from this examination. The entrance salary is from \$300 to \$600. The position of skilled laborer in the Government Printing Office (Washington, D. C.) will be filled from the skilled-laborer

register. Those applicants who ask simply for the "skilled laborer" examination are liable to be certified to any vacant position covered by that examination if within the proper age limits. (See sec. 140.) Those desiring appointment only to one position or office should so specify in their applications. For character of the third-grade questions, see section 64. Below will be found a table of the subjects and weights of the examination: (See sec. 95 for printers' assistant.)

Subjects.	Weights.
1. Spelling.....	20
2. Arithmetic.....	20
3. Letter writing.....	20
4. Penmanship.....	20
5. Copying from plain copy.....	20
Total	100

Sec. 102. Special agents, special inspector, special employees, Chinese inspectors, Fur Seal Island agents, Treasury Department.—Vacancies in these positions will be filled from special examinations to be held when vacancies occur, and such examinations (except for Chinese inspector) will consist of the first-grade basis (see sec. 62) and practical questions covering the duties of the positions to be filled. For the position of Chinese inspector the subjects and weights will be the same as those of the first-grade customs examination. Persons who desire to take these examinations should request the Commission to forward them copies of Form 376, "Application for information," the filing of which will insure the applicants being sent application blanks and full information as soon as the examinations specified shall be announced.

Sec. 103. Special pension examiner, Departmental Service.—Subject, first-grade basis and practical questions requiring a thorough knowledge of general law and of pension law. Time allowed, eight hours. Age limit, 20 years or over. Application forms, 304 and 375. Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk-special pension examiner examination. This examination can be taken only in the spring. It may then be taken on the date and at the places marked D in the schedule, section 9. For character of the first-grade questions see section 62. Below will be found a table of subjects and weights, followed by specimen practical questions, indicating the scope of the examination:

Subjects.	Weights.
1. Spelling	5
2. Arithmetic	5
3. Letter writing	5
4. Penmanship	5
5. Copying from plain copy	5
6. Copying from rough draft	5
7. Law	40
8. Pension law	30
Total	100

LAW.

1. (a) Show by means of examples the distinction between direct evidence and circumstantial evidence. (b) What, if any, is the distinction between civil cases and criminal cases in respect to the amount of evidence required? 2. (a) What is the legal meaning of the terms *patent ambiguity* and *latent ambiguity*? Give an example of each. What is the rule of evidence as to each? (b) Name two general classes of cases in which oral evidence can not be substituted for written evidence. 3. (a) A witness having been duly served with a writ of subpoena, what further, if anything, is necessary in civil cases before the witness can be punished for refusal to appear and testify? What further, if anything, is necessary in criminal cases? (b) How, in general, must a written instrument, which has a subscribing witness, be proved? Name two classes of exceptions. 4. (a) When a written instrument is altered by a stranger, without the knowledge of any interested party, so that its legal operation is changed, state in full the effect of such change. State in full what, if any, different effect is produced in case such an alteration is made by a party in interest. (b) When only and against whom only are depositions admissible? 5. (a) Can the defendant in a criminal prosecution be compelled to testify? What general principle governs? If he voluntarily takes the stand, how are his rights affected? (b) Give in full the object of the writ of *subpoena duces tecum*. 6. (a) Explain in full what is meant by a *common-law* marriage. (b) By what law is the validity of a marriage determined? 7. (a) What is essential to give the court jurisdiction in proceedings for divorce? How does a sentence of nullity differ from an absolute divorce? (b) State whether or not a marriage can be legally dissolved by the mutual agreement of the parties, and give the reason for your answer. 8. (a) What is the presumption as to the legitimacy of the child of a married woman? How alone may this presumption

be rebutted? (b) In what two ways are guardians appointed? What are the duties of a guardian *ad litem*? 9. (a) To whom in general does the construction of contracts belong? What law governs in the construction of contracts? (b) What is the rule as to the *adequacy* of consideration in contracts? 10. (a) What is meant by *power of attorney*? (b) What at common law is necessary to constitute the offense of perjury?

PENSION LAW.

1. Define each of the following terms as used in the pension laws: (a) Invalid pension, (b) reimbursement, (c) increase (invalid), (d) "minor child." 2. (a) State all the conditions on which a volunteer soldier of the war of 1861-1865 may be entitled to a pension. (b) On what conditions may a soldier of the Regular Army disabled in 1869 be pensioned? 3. To what rate of pension is each of the following named entitled, the soldier or sailor having died from causes due to service in the war of 1861-1865: The widow of a captain in the Navy; the mother of a major in the Army; the dependent brother of a second lieutenant in the Army; the minor child of a private soldier. 4. (a) For service in what wars are "service pensions" allowed? (b) Who may receive "service pensions"? (c) State the monthly rate of pension now paid to each of the persons required to be named in (b), and if the rate has in any case been changed, give the former rate in each such case. 5. (a) What provision is made in the pension laws with reference to the proof of marriage in ordinary cases? (b) In what cases does date of marriage to soldier of widow applicants for pension affect their title thereto, and in what case will it determine the rate of pension to be paid? 6. (a) Define the term "permanent specific disability." (b) Name three permanent specific disabilities, the monthly rate for each of which is \$30. (c) What is the highest monthly rate of pension paid for disability, and for what disability is it allowed? 7. (a) What is a fee agreement and what must it contain? (b) What are the provisions of the pension laws relative to the amount of attorney fees allowed for successful prosecution of a claim for pension: (1) By "special act;" (2) for an army nurse; (3) for disability of service origin; (4) for disability not due to service? (c) Who pays these fees and from what fund? 8. (a) What facts or circumstances will operate to terminate pension in each of the following cases, the pension having been properly granted originally: (1) That of a soldier pensioned under the act of June 27, 1890; (2) that of a dependent mother; (3) that of a minor brother. (b) State all the circumstances under which an invalid pension may commence on the day after the applicant's discharge from service in the war of 1861-1865. 9. (a) State all the facts which must be shown to entitle the mother of a soldier to pension under the act of June 27, 1890. (b) Who are entitled to bounty-land warrants? (c) When must the service have been rendered and what must have been the length or character of the service to give title to bounty-land warrant? 10. (a) A soldier (private) of the war of 1861-1865 died therein, leaving a widow and two children under 16 years of age. Give the date of commencement of widow's pension; the date of commencement, duration, and rate of increase; the rate to which she is now entitled, she not having remarried, and the date on which she became entitled to such rate. (b) What steps must be taken by a pensioner whose name has been dropped from the pension rolls for failure to claim his pension to secure restoration of his name to the rolls? (c) In what cases may pensions be granted to persons who served in the Confederate army or navy in the war of 1861-1865?

Sec. 104. State Department clerk, Departmental Service.—Subjects, first-grade basis, and practical questions requiring a thorough knowledge of geography and general history, international law, and diplomatic history, and law (government). Time allowed, eight hours. Age limit, 20 years or over. Application form, 304. This examination will be given only when vacancies occur. Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk-State Department clerk examination. The entrance salary is \$900 to \$1,000. For character of the first-grade questions, see section 62. Below will be found a table of subjects and weights, followed by practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	7.5
2. Arithmetic.....	12.5
3. Letter writing.....	12.5
4. Penmanship.....	7.5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Geography and history.....	10
8. International law and diplomatic history.....	20
9. Law (government).....	20
Total	100

GEOGRAPHY AND HISTORY.

1. Name the two most important cities on each of the following-named rivers or bodies of water: Connecticut River, Puget Sound, Missouri River, Lake Michigan, Mississippi River. 2. Name two States bordering Nevada on the north; two Territories bordering on Texas; two States bordering Wisconsin on the west; two States bordering Georgia on the north; two States bordering New York on the east. 3. In what State is the mouth of each of the following-named rivers: The Tennessee, the Roanoke, the Mississippi, the Merrimac, the Platte. 4. In what foreign country is each of the following-named cities located: Bogota, Lima, Aberdeen, Palermo, Adrianople, Kioto, Lucknow, Melbourne, Symrna, Prague. 5. Name the countries of Europe bordering on Switzerland, and give the capital of each country required. 6. Name five European countries, each of which established at least one colony within the present limits of the United States, and name the States in which each of these countries first established such colony. 7. What was the occasion of each of the following: The war of 1812, the Monroe doctrine, the Geneva award, the Gadsden purchase? 8. Name the States bordering on the Gulf of Mexico whose territory in whole or in part was acquired by the United States by treaty or conquest, and name the foreign countries from which such territory of these States was

acquired. 9. Name the most prominent public position that was held by each of the following-named persons: Daniel Webster, John C. Calhoun, Roger B. Taney, William H. Seward, Salmon P. Chase. 10. Under whose administration was each of the following-named treaties ratified: Ghent, Guadalupe-Hidalgo, Clayton-Bulwer, Washington?

INTERNATIONAL LAW AND DIPLOMATIC HISTORY.

1. (a) Name two practical sources or bases of international law. (b) Explain the distinction between a *de facto* government and a *de jure* government, and state which is the one generally recognized by foreign governments. 2. (a) Explain the distinction between the international status of *insurgents* and that of *belligerents*. (b) By what rule should nations be guided in determining the question whether combatants shall be considered as belligerents or as insurgents? Cite an instance in point. 3. (a) What is now the accepted practice and doctrine of the law of nations as to the early theory of *perpetual allegiance*? (b) Explain the distinction, if any, between the *residence* or *abode* of a person and his *domicile*, and state a case in which the question would be important. 4. (a) What important question in international law arises in respect to large ship canals? Cite one case in point, of importance to this country. (b) What reasons are being urged for increasing the width of the belt of sea known as the *marine league*? 5. (a) In case of a revolution in a foreign country and a setting up of a new government, when may the judiciary of the United States take notice of such new government? (b) Explain what is meant by the term *contrabands of war*, and state the rule of international law in respect thereto. 6. What in full is the doctrine of *exterritoriality*, and upon what is it based? Name two cases to which it applies. 7. (a) What is the status of the question as to the possession of the sea included between remote headlands? Cite an important case affecting this country. (b) Explain what is meant by the *right of asylum*. Cite an historical illustration. 8. (a) When, if ever, may one of the States of this country treat with an ambassador of a foreign country? (b) Cite and give the details of a notable instance within the past few years where an ambassador of a foreign country undertook to treat directly with one of our States. 9. (a) Explain fully what is meant by the *right of search*. What is its purpose? To whom is it accorded? Where is its exercise prohibited by international law? (b) Cite a recent notable instance where a foreign country attempted to assert the right of search against this country, and explain why in that instance the claim to such a right could not be maintained. 10. Explain what is meant by the *right of convoy*, and state what position this country has taken in respect thereto.

GOVERNMENT.

1. (a) Who are citizens of the United States, as declared by the Constitution? (b) To whom does the Constitution give the power to make treaties? To whom is the power denied? 2. (a) With one exception, what power does the Constitution grant to the President in the matter of persons convicted and sentenced for offenses against the United States? (b) State the exception. 3. (a) When, as declared by the Constitution, may a State impose duties upon imports and exports? (b) What disposition does the Constitution require to be made of the net revenue from duties imposed by a State? 4. (a) Under the Constitution, in what cases has the Supreme Court of the United States original jurisdiction? (b) What Federal guaranty is given by the Constitution to every State? 5. (a) When, as declared by the Constitution, shall the President of the United States be commander in chief of the militia of the several States? (b) What is the distinction between the Constitutional limitation upon the United States and that upon any State, in the matter of the kind of laws which may be passed.

Sec. 105. Station Superintendent, Fish Commission, Departmental Service.—Subjects, first-grade basis, geography of the United States and practical questions in fish-culture. Time allowed, six and one-half hours. Age limit, 20 years or over. Application form, 304. This examination will be given only when vacancies occur. Applicants for this examination who desire their names entered also on the clerk register should apply for the clerk-station superintendent examination. There are four classes of fish-culture tests in this examination. If an applicant takes more than one of these fish-culture tests, he is allowed an additional hour for each additional test. For the character of the first-grade questions, see sec. 62, and for the character of the questions on fish-culture, see fish-culture examination, sec. 80. This examination will go somewhat deeper into the subject of fish-culture than will the fish-culturist examination. Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Geography.....	10
8. Fish culture.....	60
Total.....	100

Sec. 106. Statistical Field Agent, Fish Commission, Departmental Service.—Subjects, first-grade basis, and practical questions requiring a thorough knowledge of the compilation of statistics, and of commercial fisheries. Time allowed, eight hours. Age limit, 20 years or over. Application form, 304. This examination will be given only when vacancies occur. The entrance salary is from \$300 to \$1,200 per annum. For character of the first-grade questions, see sec. 62. Below will be found a table of

subjects and weights followed by practical questions indicating the scope of the examination.

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Compilation of statistics.....	30
8. Commercial fisheries.....	40
Total.....	100

COMPILATION OF STATISTICS.

TABULATION.

On an accompanying blank sheet make a table including the following data and showing the increase or decrease, together with the per cent of increase or decrease, in the catch of each of the two varieties of fish in each of the Great Lakes for the years 1890 and 1893. Make a full heading to your table; compute percentages to one decimal place of per cent.

The yield of trout in Lake Superior in 1890 was 2,613,378 pounds; and in 1893, 4,342,122 pounds. The yield of whitefish in 1890 was 3,213,176 pounds; and in 1893, 2,769,088 pounds. The yield of trout and whitefish in Lake Michigan in 1890 was 8,364,167 pounds and 5,455,079 pounds, respectively; and in 1893, 8,216,920 pounds and 4,833,691 pounds. In 1890 Lake Huron produced 1,505,619 pounds trout and 1,004,094 pounds whitefish; and in 1893, 3,439,575 pounds trout and 1,222,687 pounds whitefish. The catch of trout in Lake Erie in 1890 and 1893 was 121,420 pounds and 203,132 pounds, respectively, and the catch of whitefish in the same years was 2,341,451 pounds and 1,292,410 pounds. In 1890 Lake Ontario yielded 41,010 pounds trout and 148,771 pounds whitefish; and in 1893, 6,204 pounds trout and 45,380 pounds whitefish.

Write a discussion of not less than 300 nor more than 400 words, giving an analysis of the statistics from the table prepared by you as required by the preceding sheet, and make such comments, deductions, and observations concerning the facts presented as may seem to be appropriate.

(N. B.—In marking the discussion, its errors in form, in spelling, capitals, punctuation, syntax, and style, and its adherence to the subject will be considered and marked according to the relative weights as given in the table on the preceding sheet.)

COMMERCIAL FISHERIES.

1. Give five important shad rivers and five important salmon streams of the United States, the names not to be duplicated. 2. In what cities of the United States is each of the following fisheries chiefly centered. Whale; red snapper; mackerel; cod; haddock; swordfish; sponge; oyster; fur seal; halibut. 3. To what family does each of the following fisheries belong, and what is the natural range of the species on the United States coasts? Haddock; sheepshead; shad; squeteague, or sea trout; menhaden; smelt; alewife; hake; red grouper; kingfish. 4. Prepare a statement of not less than 200 words regarding the present condition and recent phases of any one of the following fisheries: Menhaden, mackerel, sturgeon, whitefish, Pacific salmon, whale, or fur seal. 5. In what fisheries of the United States are steam vessels employed? What are the advantages of steam as applied to fishing craft?

Sec. 107. Stenography, Departmental Service.—There will be but one examination in stenography for all branches of the service, whether at Washington or elsewhere. Whenever a vacancy occurs in any branch of the service other than departmental—for instance, in a custom-house, post-office, etc.—a list of eligibles will be prepared containing the names of those who were examined in the particular customs district, post-office district, etc., as the case may be, where the vacancy exists, and who have expressed a willingness to accept a position in that service, preference being given to legal residents of the district. Persons desiring to be examined for this position should state in their applications the particular branch or branches of service in which they are willing to accept appointment. The subjects of arithmetic, letter writing, and copying from rough draft are first grade. For specimen questions see sec. 62. Age limits, internal-revenue service, 21 years or over; post-office service, 18 years or over; all other services, 20 years or over. Application form, 304. Time allowed, five and one-half hours, of which one and one-half hours are allowed for writing the stenography notes and transcribing them. This examination may be taken only on the dates and at the places marked A or C in the schedule, section 9. Entrance salary, from \$600 to \$1,200.

Subjects.	Weights.
1. Arithmetic.....	5
2. Penmanship.....	5
3. Letter writing.....	5
4. Copying from rough draft.....	10
5. Stenography.....	75
Total.....	100

Competitors in this examination should provide themselves with notebooks or paper for taking the dictation.

The practical tests in stenography will consist of the dictation of two exercises, a letter and a speech, each containing 260 words. The dictations are given to each competitor separately. There is no preliminary reading of the dictation exercises, and no word is to be repeated, but care will be taken to pronounce each word distinctly. Preceding the tests which are to be written and transcribed there will be a preliminary test of about 200 words given, in order to familiarize the competitor with the examiner's style of dictation. This test forms no part of the speed-test proper, and is not required to be transcribed. In giving the dictations the examiner dictates the letter, and after a short pause the speech. An important element in the examination is speed in writing the stenographic notes. The dictation will therefore be given as rapidly as the competitor desires, but not so rapidly as to confuse him. Some system of signals is prearranged by which the competitor may indicate whether he wishes the examiner to dictate more or less rapidly. The exact time, to the exact second, occupied in taking the stenographic notes is noted and entered by the examiner in the proper table on the examination sheet. After both exercises have been dictated, the competitor is required to transcribe his notes either on the typewriter or in longhand. The time allowed for this transcription must not exceed one and one-half hours. *The stenographic notes must be turned in to the examiner as a part of the examination.* The exact time occupied in transcribing the stenographic notes will also be noted by the examiner on the proper sheet. Speed in taking the stenography dictations will be marked upon the followingscale: For a speed of 140 words, or more per minute a credit of 100 will be given. For every word less than 140 and not less than 80 per minute $\frac{1}{4}$ of 1 will be deducted. For every word less than 80 per minute $\frac{1}{2}$ of 1 will be deducted from 70.

An applicant for this examination who desires his name entered also on the Departmental clerk register of eligibles should apply for the clerk-stenographer examination, and is required to take the first-grade spelling and first-grade copying from plain copy in addition to the above-named subjects. For these subjects forty-five minutes additional time will be allowed. Only one application is required for both examinations. The following dictation exercises indicate the general character of the exercises used in this examination:

DICTATION EXERCISES.

POST-OFFICE DEPARTMENT,
Washington, D. C., January 16, 1893.

Hon. JOHN C. FRANKLIN, *Des Moines, Iowa.*

SIR: I have the honor to state, in answer to your inquiry of December 30, that leaves of absence are granted to railway postal clerks who receive injuries in railway accidents while on duty which incapacitate them temporarily or permanently for service. These leaves cover a period of one year, unless the injured recover and return to duty before the expiration of that period. If the disability extends beyond a year, the Department is compelled, under existing laws, to retire the clerk from the service. This regulation is a good one, but does not meet the emergency fully and fairly. It does not do full justice to those so badly injured as to be unable to resume duty at the expiration of the year limit or who may never be able to perform the labor necessary to support themselves and families. This office believes that the Department and Congress should not lose sight of the fact that the condition of the family of a clerk so badly injured as to be unable to contribute to its support permanently is, if anything, more deplorable than that of one instantly killed, because in the former case the family must not only support itself, but must provide the necessities, such as food, clothes, medicine, and medical attendance, for the disabled head. It is respectfully recommended that provision for the special employment of clerks who have been permanently disabled in railway accidents be made.

Very respectfully,

JOHN WANAMAKER, *Postmaster-General.*

MR. SPEAKER: The Clerk has just read that part of the section as it will stand if my amendment prevails, and I think it ought to prevail. I am in accord with the idea of requiring people who exercise the healing art to be competent to exercise it, but God made the people, and some people learn outside of medical or law colleges. This bill absolutely requires that before anybody shall be examined as to his fitness to practice medicine, even though he may have attended a medical college for a considerable period, he must produce a diploma from such college. Now, that is not necessary. All the diplomas on earth do not make a man competent to practice medicine or to practice law. If a man has a knowledge of the healing art within the language of this bill and can stand the examination at this section, as I propose to have it amended, will make it necessary for him to meet, he is competent to practice medicine—as competent as many that may have dwelt in a medical college. In other words, I propose to strike out this restriction and let every man stand upon his own merits—upon his knowledge of medicine and surgery all along the line—and if he fills the bill and takes the examination successfully he ought not to be deprived of the privilege of practicing medicine. In other words, let us make this a bill which seeks to test the fitness of a man to practice medicine, without necessarily burdening the applicant.

Sec. 108. Stenography and Typewriting combined.—There will be but one examination in stenography and typewriting for all branches of the service, whether at Washington or elsewhere. Whenever a vacancy occurs in any branch of the service other than departmental—for instance, in a custom-house, post-office, etc.—a list of eligibles will be prepared containing the names of those who were examined in the particular customs district, post-office district, etc., as the case may be, where the vacancy exists, and who have expressed a willingness to accept a position in that service,

preference being given to legal residents of the district. Persons desiring to be examined for this position should state in their applications the particular branch or branches of service in which they are willing to accept appointment. Age limits, internal-revenue service, 21 years or over; post-office service, 18 years or over; all other services, 20 years or over. Application form, 304. Time allowed, seven and one-half hours, of which one and one-half hours are allowed for the writing of the stenography notes and their transcription either in longhand or upon the typewriter. This examination may be taken only on the dates and at the places marked A or C in the schedule, sec. 9. Entrance salary, from \$600 to \$1,200.

Subjects required to be taken in the combined examination:

1. Arithmetic (first grade).
2. Penmanship.
3. Letter writing (first grade).
4. Tabulating.
5. Copying from rough draft.
6. Copying and spacing.
7. Writing from dictation.
8. Stenography (dictations and transcription).

The subjects of arithmetic, letter writing, penmanship, and copying from rough draft will be required to be taken only once at the same time and place in connection with the examination for stenography and typewriting combined.

If a competitor passes in both stenography and typewriting, his name will be entered upon both registers. In addition to this, the averages in the two examinations will be combined, a weight of 1 being given to typewriting and a weight of 2 to stenography, and with the average thus obtained his name will be entered upon the combined stenography and typewriting register. If he passes in only one of the examinations, his name will be entered upon the register for the examination which he passes.

An applicant for this examination who desires his name entered also on the departmental clerk register of eligibles should apply for the clerk-stenographer and typewriter examination, and is required to take the first-grade spelling and first-grade copying from plain copy in addition to the above-named subjects. For these subjects forty-five minutes additional time will be allowed. Only one application is required for the combined examination.

Sec. 109. Stock examiner, Bureau of Animal Industry, Department of Agriculture.—Subjects, second-grade basis, and practical questions requiring a knowledge of the appearances and conditions which accompany the more common diseases of the food-producing animals. Time allowed, five hours. Age limit, 20 years and over. Application form, 304. This examination may be taken on the date and at the places marked D in the schedule, sec. 9. Applicants for this examination must have had at least three years' experience in handling meats or meat-producing animals, and such experience must be shown in answer to question 12 of the application form. Applications which fail to show this experience will be canceled. Entrance salary is \$900. Certifications for this position are made by districts, the country being divided for this purpose into six districts. (See sec. 44g.) For character of the second-grade questions, see sec. 63. Below will be found a table of subjects and weights, followed by specimen practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	10
2. Arithmetic.....	10
3. Letter writing.....	10
4. Penmanship.....	10
5. Copying from plain copy.....	10
6. Practical questions.....	50
Total	100

PRACTICAL QUESTIONS.

1. What indications or symptoms would lead one to suspect tuberculosis ("consumption") in cattle?
2. Name two diseases or conditions of sheep which render the meat unwholesome, and state how each disease named would be recognized in the living animal.
3. What signs or symptoms would lead one to suspect that a steer has actinomycosis or lumpy jaw?
4. Name two diseases of domesticated animals which are transmissible to man.

Sec. 110. Superintendent of construction, Supervising Architect's Office, Departmental Service.—The position of superintendent of Government buildings in process of construction is filled from this examination. The duties of this position necessitate the appointee's continuous residence in the city where the building under his superintendence is being constructed. The minimum salary is about \$1,800 per annum.

Age limit, 20 years or over. Application forms 304 and 375. The examination covers two days of seven hours each. Subjects 1, 2, and 3 are given on the first day, and subjects 4 and 5 on the second day. The examination may be taken on the date and at places marked D, schedule, sec. 9. *A competitor must have had at least five years' practical experience in building construction, either as superintendent proper, contractor, architect, or engineer, and must furnish prima facie evidence in support thereof to the Commission before he can be admitted to the examination.*

Below will be found a list of subjects and weights, followed by specimen practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Letter writing	10
2. Practical arithmetic, mathematics, and mechanics....	10
3. Knowledge of building materials and construction ...	40
4. Specifications	10
5. Building supervision (practical questions)	30
Total	100

LETTER WRITING.

Write a letter of not less than 150 words on the effects of invention on the industrial development of the United States during the present century. This exercise is designed chiefly to test the competitor's skill in simple English composition. In marking the letter, its errors in form and address, in spelling, capitalization, punctuation, syntax, and style, and its adherence to the subject, will be considered.

KNOWLEDGE OF BUILDING MATERIALS AND CONSTRUCTION.

1. What are the requisites of first-class building brick, of best quality lime, and of best quality building sand? 2. What are the characteristics of good cement; what tests are necessary to determine its quality, and in what respects do Rosendale and Portland differ? 3. (a) What is "dry rot" and how is it prevented in buildings? (b) What are the requirements of first-class yellow pine lumber? (c) In what respects do cast iron, malleable iron, and steel differ? 4. (a) What is quarry water, what is its effect on stone, and how is it gotten rid of? (b) Compute the number of cubic feet of well-rammed concrete to be obtained from the following materials: Three barrels (packed) Portland cement, 11 barrels sand, 9 barrels gravel, and 15 barrels ordinary broken stone. (Show work in full.) 5. In foundations, what various means are adopted to increase the bearing capacity of a yielding soil? 6. (a) What precautions must be taken to insure good joints and bond in (1) brick masonry, (2) ashlar facing with brick backing? (b) Give a pen-and-ink sketch section and plan of a fireplace, with hearth and trimmer arch, opening 2' 6" high, 3' 0" wide, and 16" deep. 7. What is "slow-burning construction"? Give a neat pen-and-ink sketch of the post and girder connections and of the floor construction of a building of this type. 8. Give pen-and-ink sketch sections through head, sill, and jamb of a sliding sash window frame; name the different parts, and specify the material for each part. 9. Give neat pen-and-ink sketch sections through a door jamb, and through the style of a veneered door; name the different parts in each case, the materials for each part, and describe or show plainly by sketches the method of construction. 10. Make a neat pen-and-ink sketch showing longitudinal section through string of an iron staircase with marble treads; also show a section of gallery casing in a fireproof building, the floor to be of marble.

PRACTICAL ARITHMETIC, MATHEMATICS, AND MECHANICS.

1. Extract the square root of 492,868,586,116. 2. A contractor agrees to complete a piece of work in 30 days, and puts 17 men to work on it, the working day being 8 hours. At the end of the 13th working day 5 men quit work, and he finds that only $\frac{1}{4}$ of the work has been done. How many extra men, provided the total force works hereafter 9 hours per day, will it be necessary for him to hire at once so that he may fulfill his contract? 3. Divide 52 by $\frac{3}{4}$, multiply the quotient by 3.5468, and from the product subtract $\frac{1}{4}$ of 13.76. 4. The depth of a building lot is one foot less than double its frontage. If a strip 1 yard wide be taken off all around, the area is diminished 210 square feet. What is the area of the original lot in square feet? 5. The plan given shows excavation for house. General excavation is 6' 9" deep and deep-area windows 4' 8" deep. The ground is level. Find total excavation in cubic yards. 6. The area of a circle is 272 square feet. Find its radius and circumference in feet and inches. 7. The axes of an ellipse are 4 and 6 inches, respectively. Show one method of constructing it graphically. 8. A beam of uniform cross section 25 feet long and weighing 50 pounds per foot is placed on a rail. It has a load of 150 pounds at 2 feet from one end and 400 pounds at 5 feet from the other. If there is equilibrium, find position of supporting rail from each end of beam in feet and decimals of a foot. 9. Given two circles of different radii, and one of which lies either wholly or in part outside of the other, show, geometrically, how to draw a straight line tangent to both circles. 10. From the given sketch calculate the strains on the jib and the chain of this crane. State whether tension or compression.

SPECIFICATIONS.

(a) Give the general heads for a specification for a small brick office building with fireproof floors and roof. (b) Give rough draft of specification for the brickwork, woodwork, and ironwork for the same.

BUILDING SUPERVISION.

1. (a) State what mental and moral qualities a successful superintendent must possess. (b) State what technical qualifications he should possess. 2. (a) How would you check the stakes defining the lot on which the building is to be erected, under your superintendence, and how would you fix them for future reference? (b) What points would you attend to in the excavation for foundation?

3. (a) The foundation having been excavated to the depth specified, how would you test its bearing capacity? (b) If its capacity did not come up to requirements of specification, what would you do? 4. If the nature of the soil is such that wooden piles must be used and have been specified, state fully what you would do, as a superintendent, from the time of arrival of the piles on the ground, until they are driven in conformity to contract requirements. 5. State what precautions you would take in order to obtain the best quality of work and best results in foundation footings (a) of concrete, (b) of brick, and (c) of stone. 6. In the superintendence of cut work, either in granite, sandstone, or limestone, what precautions would you take in order to obtain the specified standard (a) in material, (b) in the cutting and molding, and (c) in the setting of the stone? 7. If, in your opinion, the contractor is using material not up to specification, or the quality of the work done, through inefficiency of workmen or other cause, is not first class; and, generally, when the work in any respect is not being conducted or performed according to your interpretation of specification and contract, state, in detail, what course or courses you would pursue. 8. State what general considerations should govern a superintendent's course of action in all matters relating to his work.

Sec. 111. Tagger, Bureau of Animal Industry, Department of Agriculture.—Subjects are the same as for the second-grade basis. Time allowed, four hours. Age limit, 20 to 40 years. Minimum height, 5 feet 7 inches. Application form, 304. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. Taggers are usually assistants to meat inspectors and stock examiners in the Bureau of Animal Industry. Certifications for this position are made by districts, the country being divided for this purpose into six districts. (See sec. 44g.) Salary, \$720. For character of the second-grade questions, see sec. 63. Below will be found a list of the subjects and weights of the examination:

Subjects.	Weights.
1. Spelling.....	20
2. Arithmetic.....	20
3. Letter writing.....	20
4. Penmanship.....	20
5. Copying from plain copy.....	20
Total	100

Sec. 112. Telegrapher, Departmental Service.—Subjects, first-grade basis, and practical questions requiring a practical knowledge of telegraphy, together with an actual test in "sending" and "receiving." Age limit, 20 years or over. Application forms, 304 and 394. No specimen practical questions can be furnished. They relate to the instruments, wires, batteries, electrical phenomena, and other matters connected with practical telegraphy. The eighth subject or practical test consists of an exercise in "sending" and one in "receiving," in both of which all errors, "breaks," and other defects are noted and charged. Speed, accuracy, and quality are also considered in marking these tests. This examination will be given only when vacancies occur, and will be announced in the newspapers. *No applications will be accepted until a vacancy occurs.* When it is not possible to give a practical test in sending and receiving, applicants will be required to furnish evidence satisfactory to the Commission of their experience and ability, on which evidence they will be graded. Vacancies in the position of telegrapher are very rare, one appointment having been made during the past three years, and only two during the past four years. For specimen first-grade questions see sec. 62. Below will be found a list of the subjects and weights of the examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Practical questions.....	20
8. Practical test or practical experience.....	50
Total	100

Sec. 113. Topographic draftsman and assistant topographer examinations, Departmental Service.—These examinations may be taken on the date and at the places marked D in the schedule, sec. 9. Age limit, 20 years or over. Application forms, 304 and 375. Applicants may take either or both of these examinations and should specify in their applications the examination or examinations desired. Subjects 1, 2, 3, 4, and 5 are identical for both and are therefore given but once. All vacancies for draftsman, requiring no special qualifications, that occur in the Coast Survey, Hydrographic Office, Cartographic Office, General Post-Office, Geological Survey, and

General Land Office, are filled from this draftsman register. Two days of six consecutive hours each are allowed for the Topographic draftsman examination, and two days of eight consecutive hours each for the assistant topographer examination. Subjects 1, 2, 3, 4 must be finished, and subject 5 may be begun, the first day.

The length of time indicated for each day is the maximum to be allowed. The competitor may apportion the time at his disposal each day among the various subjects given on that day as may seem best in his judgment.

Writing or drawing paper will be furnished, but the competitor will be required to provide himself with inks, pens, scales, squares, and small drawing board (15 inches square will suffice).

Below will be found the subjects and relative weights in each case.

Topographic draftsman:

(1) Letter writing	5
(2) Geography of the United States	10
(3) Mathematics (including arithmetic, algebra to quadratics, plane geometry, and elements of trigonometry)	20
(4) Geographic projections	15
(5) Topographic drawing and lettering	50
Total	100

Assistant topographer:

(1) Letter writing	5
(2) Geography of the United States	10
(3) Mathematics	20
(4) Geographic projections	15
(5) Topographic drawing and lettering	20
(6) Elements of astronomy and geodesy and use of instruments	15
(7) Contour construction	15
Total	100

Below will be found specimen questions indicating the scope of the basis examination. No specimen tests in the other subjects can be furnished.

LETTER WRITING.

Write a letter of not less than 150 words, on the progress of the United States, in the line of invention, during the last twenty-five years. This exercise is designed chiefly to test the competitor's skill in simple English composition. In marking the letter its errors in form and address, in spelling, capitalization, punctuation, syntax, and style, and its adherence to the subject, will be considered.

GEOGRAPHY.

1. Name five States bordering on the Great Lakes and name one important lake port in each of the States required. 2. Name five States which border on the Missouri River, and name the capital of each State required. 3. In what State is each of the following named located: Fremont Peak, Tulare Lake, Mount Mitchell, Schoodic Lakes, Mount Baker? 4. Name the most populous city in each of the following-mentioned States and the river or body of water on which each is situated: Connecticut, West Virginia, North Dakota, Washington, Arkansas. 5. Name two States which border on each of the following-mentioned rivers or bodies of water: Potomac River, Lake Champlain, Savannah River, Columbia River, Sabine River.

ARITHMETIC AND ELEMENTARY MATHEMATICS.

1. Same as question 1 of the arithmetic of first-grade basis examination. 2. Divide $5\frac{1}{2}$ by $\frac{3}{4}$, multiply the quotient by 3.5468, and from the product subtract $1\frac{1}{2}$ of 13.76. 3. Three draftsmen, A, B, and C, are engaged upon a piece of work. A can do it alone in 7, B in 15, and C in 21 days. After the three men work together $1\frac{1}{2}$ days B stops work. How long will it take A and C, working together, to complete the work? 4. Extract the square root of 94,254.526081. 5. What size sheet of paper, in inches, would be required for a map covering one degree of latitude and longitude, on a scale of $\frac{1}{80,000}$, to allow a margin $1\frac{1}{2}$ inches wide all round, outside the neat lines, if one minute of latitude is equal to 1,850 meters and one of longitude on the largest arc is equal to 1,356 meters? 6. Show how to draw a circle through three given points not on a straight line, and prove your construction. 7. Find the point on a given straight line, such that the sum of the distances from it to two given points not on his line may be the least possible.

8. Given $\frac{x-5}{4} - \frac{2x-y-1}{3} = \frac{2y-2}{5}$, and $\frac{2y+x-1}{9} = \frac{x+y}{4}$, find x and y .

9. Given $x^2y + xy^2 = 20$, and $\frac{1}{x} + \frac{1}{y} = \frac{5}{4}$, find x and y .

10. In a triangle A, B, C, the angles A and B and the side a are given. Write down the formulæ for finding C, b , and c , and express the logarithms of these in terms of those of A, B, and a .

GEOGRAPHIC PROJECTIONS.

State fully and clearly the principles of polyconic projection, and describe in detail the process of constructing, by this projection, a map of that part of the United States and Canada lying between 30° and 50° north latitude and 70° and 90° west longitude. The scale of the map is to be $\frac{1}{1,200,000}$.

Sec. 114. Typewriting, Departmental Service.—There will be but one examination in typewriting for all branches of the service, whether at Washington or elsewhere.

Whenever a vacancy occurs in any branch of the service other than departmental—for instance, in a custom-house, post-office, etc.—a list of eligibles will be prepared containing the names of those who were examined in the particular customs district, post-office district, etc., as the case may be, where the vacancy exists, and who have expressed a willingness to accept a position in that service, preference being given to legal residents of the district. Persons desiring to be examined for this position should state in their applications the particular branch or branches of service in which they are willing to accept appointment.

All applicants in the typewriting examination who have had experience in the operation of book typewriting machines should forward with their applications a written statement showing in detail just what experience they have had, the kind of work they have done on these machines, and where they performed their work. Applicants claiming this experience may be given a practical test on the book typewriting machine.

The subjects of arithmetic, letter writing, and copying from rough draft are first grade (see sec. 62). The subject of copying from rough draft, however, will be one of the technical tests in typewriting. In addition to the copying from rough draft the practical exercises in typewriting will consist of tabulating, copying, and spacing, and a practical test in writing from dictation on the typewriter. This test will consist of a passage of about 175 words, which, together with punctuation marks where they occur, will be dictated in groups of five or six words by the examiner. As speed is an important element in this exercise, the examiner reads as rapidly as the competitor may desire and indicate. No changes or corrections are permitted after the close of the dictation. The examiner carefully notes the time to the exact second occupied in taking down the dictation, and records the same on the sheet. In each technical subject accuracy has a weight of 3, and speed a weight of 2. Time allowed for the examination, six hours. Age limits: Internal-Revenue Service, 21 years or over; post-office service, 18 years or over; all other services, 20 years or over. Application form, 304. An applicant for this examination who desires his name entered also upon the departmental clerk register of eligibles should apply for the clerk-typewriter examination, and is required to take the first-grade spelling and first-grade copying from plain copy in addition to the above-named subjects. For these subjects forty-five minutes' additional time will be allowed. Only one application is required for the combined examination. This examination may be taken only on the dates and at the places marked A or C in the schedule, section 9. The sheets for the typewriting examination are adapted to any make of typewriting machines. Applicants must provide typewriters and stands for their use during the examination. Below will be found a table of subjects and weights, with specimen exercises in typewriting following:

Subjects.	Weights.
1. Arithmetic	5
2. Penmanship	5
3. Letter writing	5
4. Copying from rough draft	10
5. Tabulating	15
6. Copying and spacing	30
7. Writing from dictation	30
Total	100

TABULATING.

[Preliminary machine tests will not be permitted, but a rough draft of the table may be made with pencil or pen on scratch paper and copied with typewriter on the accompanying blank sheet. The time consumed in making such rough draft will be included in the time allowed for this exercise.]

Write the following facts with the typewriter, in tabular form, in six columns, with proper headings (general heading and column headings), without abbreviations. (The figures given below are not considered as abbreviations.) The general heading should be brief and should indicate clearly the facts which are shown in the table, and each column heading should indicate the facts which are given in that column. The table should not exceed 66 spaces in width.

The records of the district of Alabama show that in 1893 (all of the statistics given below being for that year) there were in the warehouses 9,937 gallons of spirits in August, 14,997 gallons in September, 12,312 gallons in October, 17,863 gallons in November, and 23,072 gallons in December. In August there were 245,417 gallons of spirits warehoused in the district of Maryland; in the months of November and September there were warehoused, respectively, 86,845 and 252,272 gallons, and 39,291 and 189,032 gallons, respectively, in the months of December and October. No spirits were stored in the district of North Carolina in the months of December and November, and only 47 and 94 gallons, respectively, in October and September. There were in the warehouses in this district 274 gallons in the month of August; 4,313,206 are the figures given for the number of gallons for September, 623,401 those for November, and 3,917,212 those for August, as being the number of gallons of spirits in the warehouses of the district of Kentucky, while the figures for October and December are given, respectively, as 2,465,563 and 166,405 gallons. In the month of December only 39,291 gallons were in the warehouses

in the district of Massachusetts, and only 86,845 gallons during the month of November, while in the month of August there were 245,417 gallons. The number of gallons of spirits warehoused in this district was 189,032 gallons in October and 252,272 gallons in September. In August there were 12,210 gallons of spirits in the warehouses in the district of Missouri; in the months of November and September there were in the warehouses, respectively, 515 and 18,759 gallons, and 16,064 and 1,144 gallons, respectively, in the months of October and December; 552,993 gallons were in the warehouses in the month of October and 517,053 in August in the district of Pennsylvania; the number of gallons warehoused in November, December, and September were, respectively, 375,114, 148,263, and 566,486. In the district of Virginia there were 49,556 gallons of spirits in the warehouses in August, 28,661 gallons in October, 44,386 gallons in September, and 2,139 and 4,452 gallons, respectively, in November and December.

COPYING AND SPACING.

For this subject the competitor will be required to make on the typewriter an exact reproduction of a typewritten tabular statement which will be given him on a separate sheet. In this exercise, which will be about one page (legal size) in length, punctuation and other marks must be closely followed, and all spaces between lines and words preserved. The copy is so prepared that it may be reproduced on any of the usual makes of typewriting machines.

Sec. 115. Watchman, Departmental Service.—The subjects of this examination are identical with those of the third-grade basis. Time allowed, three hours. Age limit, 20 years or over. Application form 304. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. Entrance salary, \$480 to \$720. For character of the third-grade questions, sec. sec. 64.

Subjects.	Weights.
1. Spelling.....	20
2. Arithmetic.....	20
3. Letter writing.....	20
4. Penmanship.....	20
5. Copying from plain copy.....	20
Total	100

FOURTH-GRADE (OR TRADES) EXAMINATIONS FOR DEPARTMENTAL SERVICE.

Sec. 116. In this examination no educational test is required, but applicants are graded on age, character as a workman, experience, and physical qualifications. The information on which the marks are based must be furnished by the applicant on blanks which will be sent to him for that purpose. Applicants are required to file their applications on Form 304; and in addition to this they are required to furnish statements on Form 394 in reference to the trade or occupation for which they wish to be examined, together with certificates from persons for whom or with whom they have worked at the trade or occupation for which they wish to be examined. Applicants for the position of plate printer will be required to file supplementary statements and vouchers on Form 1080, in addition to Forms 304 and 394. Applicants who desire more than one fourth-grade examination must file an additional Form 394 for each examination desired. Care should be taken to furnish accurate and complete information, in order that a sufficient basis may be had for grading the papers. Applications may be filed at any time.

Applicants for trades examinations, requiring no scholastic tests, may sign their applications by mark, if unable to write. The list of positions for which this kind of examination is required is as follows:

Blacksmith.	Hostler.	Roller maker.
Cabinetmaker.	Knife grinder.	Sailmaker.
Carpenter.	Laundress.	Sawyer.
Classified laborer, Government Hospital for the Insane.	Leather worker.	Steam fitter.
Coachman.	Locksmith.	Stonecutter.
Cook.	Machinist.	Tailor.
Decorator.	Mason.	Teamster.
Engineer, departmental.	Miller.	Transferer.
Fireman, departmental.	Painter.	Wheelwright.
General mechanic.	Plasterer.	And positions of similar character.
Hardener.	Plate cleaner.	
Hospital attendant, Marine-Hospital Service (see sec. 164).	Plate printer (g).	
	Plumber.	
	Pupil nurse.	

The following is a statement of the methods by which the fourth-grade (or trades) examinations will be rated:

(a) *Age.*—An applicant who is over 25 and not exceeding 45 years of age shall be given a maximum credit of 100 for age. All applicants less than 25 or more than 45 years of age will receive a mark proportionately less than 100 per cent.

(b) *Character as a workman.*—An applicant will be required to furnish evidence as to the *quality* of work he is capable of performing, his *ability* as a *rapid* or *slow* workman, and his record as to *habits* of industry in connection with his trade or occupation. In the consideration of these points an applicant will be rated according to the following plan: Quality—poor, 70 or less; average, 70 to 85; exceptional, 85 to 100. Quantity—poor, 70 or less; average, 70 to 85; exceptional, 85 to 100. Industry—poor, 70 or less; average, 70 to 85; exceptional, 85 to 100.

(c) *Experience.*—An applicant who has served the regular period of apprenticeship required by his trade and has thus acquired the status of journeyman, shall be given a mark of 70 for experience. For each full year's experience as journeyman, to and including two years, he shall be given a mark of 10 in addition to 70, and for each full year's experience over two and not exceeding seven years, he shall be given a mark of 2 in addition to 90. For seven or more years' experience as a journeyman a maximum mark of 100 shall be given.

(d) *Physical qualifications.*—An applicant whose application and vouchers show him to have no physical defects or disqualifications for the practice of the trade for which he desires to be examined shall receive a mark of 100 for physical qualifications. An applicant whose application or vouchers show any physical defects which may impair his efficiency in the practice of the trade for which he wishes to be examined will have a proportionate deduction made from 100, according to the nature of the defect or disqualification, and the remaining mark will be his mark for physical qualifications.

(e) In cases where the elements of age, character as a workman, experience, and physical qualifications are considered, the relative weights will be as follows: Age, 1; character as a workman, 4; experience, 4, and physical qualifications, 1.

(f) Where it is desirable, a general intelligence test, or practical questions, will be given in addition to the examination on Form 394.

(g) The elements of character as a workman and experience in the examination for the position of plate printer in the Bureau of Engraving and Printing are not rated in accordance with the plan indicated in paragraphs (b) and (c), but the *kind* of experience and the character of the plate-printing work which the competitor has performed are especially considered in determining the ratings under these two subjects. Only those printers who have performed plate-printing work of the same character as that performed in the Bureau of Engraving and Printing will receive the maximum ratings for experience and character as a workman, lower ratings being given for plate-printing work of other kinds.

RAILWAY-MAIL SERVICE.

Sec. 117. Railway-mail clerk examination.—There is but one examination for all positions in the Railway-Mail Service, viz, the railway-mail clerk examination. Subjects, second-grade basis; additional questions requiring a thorough knowledge of the geography of the United States, and of the railway systems of the particular railway-mail division of which the applicant is a legal resident, and reading addresses. Time allowed, five and one-half hours. Age limit, 18 to 35 years. (Application form, 304.) This examination may be taken on the dates and at the places marked A, B, or E, in the schedule, section 9, but may not at those marked C or D. Entrance salary, \$800.

The severe and exacting character of the work required of railway-mail clerks, the great strain upon the physical constitution and powers of endurance, and the greater ease and facility with which young men learn the schemes of distribution, and consequently their greater efficiency in the service, furnish the principal reasons for fixing the maximum age limitation at 35 years. These considerations also require that there shall be a physical examination of the persons applying for this service in connection with the application, so that those who are evidently physically disqualified shall not be put to the trouble and expense of taking the educational examination and the service to the inconvenience and delay which would result from their appointment and rejection upon trial. Any person who is found to be below 5 feet 4 inches in height, or under 125 pounds in weight, or who is physically defective in any particular shall be deemed to be disqualified for the Railway-Mail Service, and consequently ineligible for the educational examination (see Reg. XIII, sec. 35). The Commission has frequently investigated the statements of applicants in reference to their ages, and the misrepresentations made by them have been exposed and suitable punishment inflicted upon them. An attempt to deceive in regard to height, weight, or age is regarded by the Commission as a sufficient cause for barring an applicant indefinitely from a civil-service examination. Eligibles selected for appointment may be subjected to an additional physical examination, at

their expense, before entering upon duty. *The Post-Office Department declines to appoint applicants to the Railway-Mail Service who are afflicted with rupture in any degree, varicocele, heart disease, or who have lost an eye, hand, or foot, or who have badly crippled arms or legs, or badly defective hearing, sight, or speech, or who have any other physical defect.*

For character of the subjects of the second-grade basis see section 63. Below will be found a table of the subjects and weights of this examination, followed by specimen questions in geography and railway systems of the United States, a list of the railway-mail divisions with the States comprising them, a description of the card-reading test and specimen addresses, indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	10
3. Letter writing.....	10
4. Penmanship.....	5
5. Copying from plain copy.....	10
6. Geography of the United States.....	20
7. Railway and other systems, etc.....	20
8. Reading addresses.....	20
Total.....	100

GEOGRAPHY.

1. Name the States [not Territories] as follows: Two which border on both Minnesota and Montana; two which border on both Lake Michigan and the Ohio River; two which border on New Mexico; two which border on both Alabama and the Gulf of Mexico; two which border on Long Island Sound. **2.** Name cities as follows: The largest one on the Ohio River; the largest one in the western part of Missouri; the largest one on Puget Sound; the largest one on Lake Superior; the largest one in the western part of Pennsylvania. **3.** Name the State of which each of the following-named cities is the capital, and name the largest body of water which borders on each State named: Montgomery, Augusta, Sacramento, Lincoln, Little Rock. **4.** In what State is each of the following-named: Wilmette River, Great Salt Lake, Saginaw Bay, Hudson River, Galveston Bay. **5.** In what State is each of the following-named prominent cities: Lowell, Wilkesbarre, Key West, Stockton, Oswego, Dallas, Leadville, Fort Wayne, Leavenworth, Waterbury.

RAILWAY AND OTHER SYSTEMS OF TRANSPORTATION IN THE UNITED STATES.

In this subject the questions are designed to elicit the competitor's knowledge of railway routes and systems of transportation in his railway-mail division and will be confined to the railroads entering and running through such railway-mail division, and connecting the principal cities, or important railway centers, within or near its borders; also junction points on the required railway routes, and the railroads connecting at such junction points. In naming railroads, the competitor should give the names or titles by which the roads are known in the current official railway guides, and should not give old or local names:

1. Name the railroad or railroads which form the shortest route between — (here will be inserted the names of two important cities in the railway-mail division in which the competitor claims legal residence); name four junction points between the two cities on the required railway route, and name one connecting railroad at each required junction point. **2.** Name the railroad or railroads which form the shortest route between — (here will be inserted the names of two important cities in the railway-mail division in which the competitor claims legal residence); and name four junction points on this route between the cities named above. **3.** Name the railroad or railroads which form the shortest route between the following-named groups of cities — (Here will be inserted the names of eight important cities, arranged in groups of two each, in the railway-mail division in which the competitor claims legal residence.) **4.** Name two railroads which enter each of the following-named cities — (Here will be inserted the names of four important cities in the railway-mail division in which the competitor claims legal residence.)

RAILWAY-MAIL DIVISIONS.

First division.—The New England States.

Second division.—New York, New Jersey, Pennsylvania, Delaware, and the Eastern Shore of Maryland.

Third division.—Maryland (excluding the Eastern Shore), Virginia, West Virginia, North Carolina, and the District of Columbia. (Residents of the District of Columbia are required to select either Maryland or Virginia as their State when answering the questions.)

Fourth division.—South Carolina, Georgia, Florida, Alabama, and Mississippi.

Fifth division.—Ohio, Indiana, Kentucky, and Tennessee.

Sixth division.—Illinois, Iowa, Nebraska, and Wyoming.

Seventh division.—Missouri, Kansas, Colorado, and New Mexico.

Eighth division.—California, Nevada, Oregon, Alaska, Arizona, Idaho, Utah, and Washington.

Ninth division.—Consists of the lower peninsula of Michigan; but competitors residing in this division will be examined on the States of Michigan, Ohio, Indiana, and Illinois. They will also be given questions on the distribution of the through mails via Buffalo, Suspension Bridge, Toledo, and Detroit; the lines of the Lake Shore and Michigan Southern Railroad.

Tenth division.—Wisconsin, northern peninsula of Michigan, Minnesota, North Dakota, South Dakota, and Montana.

Eleventh division.—Arkansas, Louisiana, Indian Territory, and Texas. (All of Louisiana will be regarded as in the eleventh division.)

READING ADDRESSES.

The card-reading exercise consists in the reading of names and addresses on twenty-five postal cards. These addresses are all different and in different handwritings. The reading of these cards, accuracy and speed being counted, constitutes a very practical and important test of the competitor's ability in the exact line of the duties he will be called upon to perform if appointed. The exercise has a relative weight of one-fifth of the entire examination.

In this exercise each competitor is taken aside where the reading can not be overheard by other competitors. The examiner first places the competitor's examination number in the upper right-hand corner of a sheet on which the card addresses are printed in full. He then instructs the competitor in regard to the exercise; informing him that it is limited to five minutes; that speed and accuracy have equal weight in determining the mark on the sheet; that each address must be read in full without abbreviation, and that if an address or part of an address is incorrectly read, and read the second time, the second reading will be ignored, and the competitor will simply lose time by repeating. The time of beginning is correctly noted by the examiner in the table in the upper left-hand corner of the sheet, and the competitor is instructed to proceed with the reading and to turn each card face downward as he reads, so that the cards will be in order for the next competitor. Every error, abbreviation, or omission is clearly and distinctly noted on the sheet by the examiner with a colored pencil. No charge is made for incorrect pronunciation, if the name required is understood by the pronunciation given. During the reading the examiner will not interrupt the competitor, nor permit any interruption to take place, because speed is an essential part of the examination. The examiner computes the exact time (in minutes and seconds) consumed by the competitor in reading the cards, and notes the same in the table in the upper left-hand corner of the sheet. If the competitor fail to read the cards in five minutes, he is stopped, and the words "time up" are written opposite the number of the address upon which the time expired.

INDIAN SERVICE.

Sec. 118. The written examinations for this service are as follows: Farmer, industrial teacher, kindergarten teacher, matron, manual-training teacher, nurse, seamstress, physician, superintendent, principal teacher, and teacher.

The examinations are for the most part topical rather than textual, although both topical and textual tests occur in some parts. Instead of questions and tests, such as are found in the ordinary text-books in use in schools, the competitor is given topics upon which to write essays or to prepare lessons. The essays and lessons required are intended to test the competitor's knowledge of the subject, and particularly his ability to prepare exercises for teaching. Mere superficial essays which display little knowledge of the subject and but little comprehension of what is required are graded very low.

Persons entering the Indian Service must understand when they accept the appointment that the conditions of life in an Indian boarding school differ from ordinary school or home life; that efficiency and success can come only to those who are interested in the education of the Indian, and who are physically capable of the arduous duties to be performed, and willing to do whatever is necessary for the good of all concerned. No person should offer himself for a position in this service who is encumbered with the care of children or invalids, or is in any way hampered in giving to the Government full time and best service. Employees pay their own traveling expenses to the school and for their board while there; but quarters will be provided at the school. If necessary, two or more persons must occupy one room, and employees with families must content themselves with the same space, unless otherwise ordered by the Commissioner of Indian Affairs.

Vacancies in clerical positions in the Indian Service will be filled by certification from the departmental clerk, or other appropriate registers of the Commission, and no separate or special examination for them will be allowed; hence persons who desire to become eligible to clerical positions in the Indian Service should apply for the clerk examination, departmental service.

Vacancies in positions requiring experience in trades or mechanical occupations will be filled from trades examinations, the subjects of which are experience and physical ability.

The age limitations do not apply to the wife of a superintendent of an Indian school who applies for an examination for the position of teacher (all kinds) or matron in the same school.

Sec. 119. Day-school inspector, Indian Service.—There are only two or three day-school inspectors in the Indian Service, located at large agencies, connected with which there are a large number of day schools. No examinations for this position will be held until a vacancy exists, and applications will not be accepted until an examination is announced, when application forms 304 and 375 should be used. Age limit, 25 to 55 years. The salary of this position is \$1,200 per annum. No specimen questions can be furnished.

Sec. 120. Disciplinarian, Indian Service.—This examination will hereafter be given only when vacancies occur. Notice of such vacancies will appear in the newspapers, and the subjects and weights of the examination will be given therein. Age limit, 25 to 45 years. Application forms, 304 and 375. The salaries of this position are from \$600 to \$900 per annum.

Sec. 121. Farmer, Indian Service.—Time allowed, five hours. Age limit, 20 years or over. Application forms, 304 and 394. Entrance salary, \$600. The examination

may be taken on the date and at the places marked D in the schedule, section 9. Below will be found a table of the subjects and weights, followed by specimen questions indicating the scope of the examination:

Subjects.	Weights.
1. Penmanship	10
2. Spelling and copying.....	10
3. Farm economy	30
4. Keeping accounts	10
5. Practical questions in farming	40
Total	100

PENMANSHIP.

N. B.—The mark on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercise on spelling and copying.

SPELLING AND COPYING.

Make a smooth copy of the following exercise, correcting all errors in orthography or spelling. No changes are permitted, except those required to correct errors in orthography. Spelling, use of capitals, and all omissions and mistakes will be taken into consideration in marking this subject. Penmanship will be marked on this sheet:

Water is the most abundant substance found in living crops. Not only does it form by far the largest proportion of all fresh vegetable substance, but, on account of loss thru evaporation from the leaves of growing plants and the necessity of replacing this loss, thirty or forty times more water is needed during the growing period of a crop than is contained in the crop when harvested. Plants require a large amount of water for their life and growth, and it is necessary that the supply should be abundant at all times.

FARM ECONOMY.

1. Name all the tools and materials necessary, and describe fully the method of using them, in the construction of a substantial barbed-wire fence. 2. Describe the essential parts of a thrashing machine for thrashing small grain, and explain its mode of operation. 3. Name two kinds of timber most suitable for each of the following uses: House or barn sills, shingles, fence posts, house flooring, bending work. 4. Describe in detail the various essential parts of a common lifting pump, and state the principle of its operation. 5. Define each of the following terms as applied to farm implements, etc.: Doubletree, tugs, moldboard, kingbolt, fellow.

KEEPING ACCOUNTS.

During the month of August, 1886, James Thompson, a farmer, had the following transactions with W. H. Riley, a general merchant:

On August 2 Thompson bought from Riley 40 cakes soap at 4¢ cents, 32 pounds sugar at 5½ cents, and 3 pounds tea at 45 cents. On August 6 Thompson sold Riley 5½ tons hay at \$13.20 a ton, and 55 bushels wheat at 89 cents. On August 11 Thompson bought of Riley 22 yards muslin at 9¢ cents, 48 yards calico at 6½ cents, and 4 spools thread at 5 cents. On August 15 Thompson bought of Riley 40 pounds rice at 5½ cents, 2 sacks flour at \$1.48, 1 suit clothes at \$12, and sold to him 49 bushels barley at 56 cents. On August 24 Thompson bought of Riley 2 plows at \$3.75, 1 harrow at \$14.50, and 1 wagon at \$38. On August 27 Thompson sold Riley 4 bushels potatoes at 45 cents, and bought of him 1 whip at 65 cents. On August 31 Riley paid Thompson the amount due him in cash.

Make an itemized statement of the entries above as they should appear on a statement of account current taken from the books of Thompson. Make proper heading and close the account.

PRACTICAL QUESTIONS IN FARMING.

1. Explain in detail a plan commonly practiced in irrigating fields of wheat or other sowed grain. 2. State all the advantages or benefits that are derived from the cultivation or growing of rowed crops. 3. Name five garden plants or vegetables which may be planted or transplanted in the open ground before all danger of frost is past. Name five that should not be planted or transplanted until the ground is quite warm. 4. Name three insects especially detrimental to farm or orchard crops, and state the most successful means of combating or destroying each. 5. Give full directions for the proper feeding, care, and management of a herd of milch cows on an Indian school farm.

Sec. 122. Industrial-teacher examination, Indian Service.—Time allowed, five hours. Age limit, 20 years or over. Application forms, 304 and 394. Entrance salary, \$600. This examination may be taken on the date and at the places marked D in the schedule, section 9. For specimen questions indicating the scope of subjects 1, 2, 3, 4, and 6, see farmer examination, sec. 121. No specimen questions of the fifth subject can be furnished at this time. Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Penmanship	10
2. Spelling and copying.....	10
3. Farm economy	10
4. Keeping accounts	10
5. Practical questions in carpentry and black-smithing.....	20
6. Practical questions in farming	40
Total.....	100

Sec. 123. Kindergarten teacher, Indian Service.—Time allowed, two days of five hours each, the first seven subjects being given on the first day, and the remaining subjects on the second day. Age limit, 20 years or over. The age limitation does not apply to the wife of a superintendent of an Indian school who applies for an examination for the position of kindergarten teacher or matron in the same school. Application forms, 304 and 375. Entrance salary, \$600. This examination may be taken on the date and at the places marked D in the schedule, section 9. Below will be found a table of subjects and weights, followed by specimen questions indicating the scope of the examination:

Subjects.	Weights.
1. Penmanship.....	5
2. Spelling and copying.....	5
3. Pedagogy.....	10
4. Arithmetic, form study.....	10
5. Language.....	5
6. Geography.....	5
7. Nature study.....	5
8. Drawing.....	10
9. Physiology and hygiene.....	5
10. Use of kindergarten materials.....	15
11. Songs, games, and stories.....	15
12. Psychology of childhood.....	10
Total.....	100

PENMANSHIP.

N. B.—The mark on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercise on spelling and copying.

SPELLING AND COPYING.

Make a smooth copy of the following exercise, correcting all errors in orthography and capitalizing properly. Write in full all abbreviated words. No changes in phraseology are permitted, except those necessary to correct errors in orthography and capitalization, and to write in full abbreviated words:

The school system should be absolutely emancipated from partyisan politics and completely disassociated from municipal business. But we think the appointments should be made by some one person rather than by a board. The mayor is the representative of the whole city and all its interests. While not chosen with reference to the interests of the schools, he may be assumed to have information as to the fitness of citizens for particular responsibilities and to be desirous of promoting the educational interests of the people. If he is given the power of appointment he should be particularly enjoined by law to consider only the fitness of individuals, and to pay no regard to party affiliations unless it be to see that no one party has an overwhelming preponderance in the board.

PEDAGOGY.

N. B.—In marking the essays, style or manner of expression, together with adherence to and treatment of the subjects given, will be considered.

Write an essay of not less than 150 words on the ethical or moral value of kindergarten training, giving some of the methods by which ethics may properly be taught in the kindergarten.

ARITHMETIC AND FORM STUDY.—TOPICAL TEST.

1. Discuss fully the value and use of the fifth gift in developing a knowledge of fractions.
2. Discuss fully the value and use of the seventh gift in developing concepts of plane figures.

LANGUAGE.

Discuss fully the relation of kindergarten instruction to the teaching of primary reading.

GEOGRAPHY.

Write an essay of not less than 150 words, describing fully a proper method to employ in teaching kindergarten and primary pupils to recognize and name the natural geographical divisions of water.

NATURE STUDY.

Write an essay of not less than 150 words on one (and only one) of the following topics: The peculiarities, habits, etc., of the common house fly as one should teach them to kindergarten pupils. A lesson to primary-grade pupils to interest them in the observation and study of the peculiarities and characteristics of different kinds of leaves. (Illustrate lesson by drawing a leaf and naming parts.)

DRAWING.

N. B.—The exercises of this subject are designed chiefly to test the competitor's skill in graphic, free-hand sketching on the blackboard in illustrating reading, language, and other lessons for primary pupils. Both the conception and the execution of the sketches will be considered in marking the exercises of this subject. The sketches or drawings must be free-hand and drawn with pencil.

1. Draw an outline sketch of a child trying to catch a butterfly with a net. 2. Draw outline sketches of a common rolling-pin, a pumpkin, and a pansy blossom. 3. Sketch an old-fashioned well, with the windlass and bucket visible.

PHYSIOLOGY AND HYGIENE.

Write an essay of not less than 150 words on proper muscular exercises suited to the health and strength of young pupils.

USE OF KINDERGARTEN MATERIALS.

NOTE.—The examiner will permit the competitor to select from a supply of kindergarten material such material as may be necessary in performing the work required. The exercises in this subject are designed to test the competitor's knowledge of kindergarten forms or designs and material and her skill and ability in using them in practical work. The forms or designs should be sufficiently elaborate or difficult to show the competitor's ability and skill of execution to the best advantage, yet not so complex as to require an undue length of time to complete them.

1. Make a symmetrical form or form of beauty in coloring, combining squares, isosceles, and equilateral triangles. (Use colored pencils.) 2. Make a form of beauty in paper folding. 3. Make a symmetrical form or form of beauty in parquetry work, mounting the work on the back of this sheet.

SONGS, GAMES, AND STORIES.

1. Give the words and describe in detail the movements in a kindergarten song descriptive of a rain storm. 2. Write a short story on industry and perseverance suitable to be related in kindergarten work.

PSYCHOLOGY OF CHILDHOOD.

Write an essay of not less than 150 words on the psychological principles underlying the use of the occupations of paper interlacing and mat weaving in kindergarten work.

Sec. 124. Manual training teacher, Indian Service.—Time allowed, two days of six hours each. Age limit, 20 years or over. Application forms, 304 and 375. Entrance salary, \$600. This examination may be taken on the date and at the places marked D in the schedule, section 9. Below will be found a table of subjects and weights, followed by specimen questions indicating the scope of the examination:

Subjects.	Weights.
1. Penmanship	5
2. Spelling and copying	5
3. Methods of manual training	20
4. Arithmetic	20
5. Geography	5
6. Industrial economy	15
7. Industrial drawing	10
8. Free-hand drawing	10
9. Physics	10
Total	100

PENMANSHIP.

N. B.—The mark on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercise on spelling and copying.

SPELLING AND COPYING.

Make a smooth copy of the following exercise, correcting all errors in orthography and capitalizing properly. Write in full all abbreviated words. No changes in phraseology are permitted, except those necessary to correct errors in orthography and capitalization and to write in full abbreviated words.

The school system should be absolutely emancipated from partysan politics and completely disassociated from municipal business. But we think the appointments should be made by some one person rather than by a board. The mayor is the representative of the whole city and all its interests. While not chosen with reference to the interests of the schools, he may be assumed to have information as to the fitness of citizens for particular responsibilities and to be desirous of promoting the educational interests of the people. If he is given the power of appointment he should be particularly enjoined by law to consider only the fitness of individuals, and to pay no regard to party affiliations unless it be to see that no one party has an overwhelming preponderance in the board.

METHODS OF MANUAL TRAINING.

N. B.—In marking the essays, style or manner of expression, together with adherence to and treatment of the subject given, will be considered.

Write a brief essay on each of the following topics: 1. A brief description of the tools, appliances, and accommodations necessary for the instruction of a class of ten pupils in woodworking. 2. Describe fully the details of a lesson in nailing. 3. Describe fully the details of a lesson on the use of the file in metal working.

ARITHMETIC.

TOPICAL TEST.

Write an essay of not less than 150 words, stating in detail a proper method of presenting to a class of boys the subject of the measurements of brick and stone work.

TEXTUAL TEST.

1. The interest on two notes together at their maturity without grace amounted to \$20.60. One of the notes was given for \$840 for 3 months at 6 per cent, and the other was given for \$960 for 2 months. What rate of interest did the second note bear? 2. A piece of timber is 48 feet long and 9 inches thick, and tapers uniformly from a width of 18 inches at one end to a width of 10 inches at the other. How many board feet does it contain? 3. How many gallons will a cylindrical cistern contain which

is 5 feet in diameter and $8\frac{1}{2}$ feet deep? (1 gallon = 231 cubic inches, $\pi = 3.1416$.) 4. How many horsepower can be developed from a stream of water which flows at the rate of 6,000 cubic feet per minute, with a perpendicular fall of $9\frac{1}{2}$ feet, if the water wheel utilizes 88 per cent of the theoretical power? (1 cubic foot water = 62½ pounds; 1 horsepower = 550 pounds falling 1 foot in 1 second.)

GEOGRAPHY.

Write a brief essay on each of the following topics:

1. Volcanoes; their nature, formation, distribution, characteristics, etc. 2. A description of the chief timber-producing sections of the United States, stating the principal kinds of timber produced in each. 3. Compare the States of Texas and Michigan as to size, climate, physical features, natural resources, relative advantages for manufacturing, commerce, etc.

INDUSTRIAL ECONOMY.

1. Describe fully all the essential parts of a turning lathe for woodwork, and explain fully how to use it. 2. Describe fully how to sharpen and adjust a jack plane for soft wood. 3. Describe fully the process of making and setting a wagon tire. 4. Describe the special properties and name two important industrial uses of each of the following: Steel, copper, zinc, lead, graphite. 5. Describe fully the process of joining wood by means of glue.

INDUSTRIAL DRAWING.

Design and make complete working drawings showing all the details of the construction of a simple wooden mantel. Make drawings to a scale of three-fourths inch to the foot.

FREE-HAND DRAWING.

1. Make a sketch of a stepladder having six steps and a platform at the top. 2. Make a copy of a given design, enlarging it one and one-half times. 3. Make a copy of a given picture, enlarging it one and one-half times.

PHYSICS.

1. What is a machine? Enumerate the various classes of simple machines. 2. State the laws relating to the pressure, volume, and temperature of a gas. 3. Describe a two-fluid galvanic cell and explain the principles on which its action depends. 4. What is meant by refraction of light? Describe an experiment for showing it. 5. Enumerate the effects of heat on bodies.

Sec. 125. Matron, Indian Service.—Time allowed, five hours. Age limit, 20 years or over (the age limitation does not apply to the wife of a superintendent of an Indian school who applies for an examination for the position of teacher or matron in the same school). Application form, 304. This examination may be taken on the date and at the places marked D in the schedule, section 9. Below will be found a table of the subjects and weights, followed by specimen questions indicating the scope of the examination:

Subjects.	Weights.
1. Penmanship	10
2. Spelling and copying	10
3. Domestic economy	30
4. Keeping accounts	20
5. Nursery management	30
Total	100

PENMANSHIP.

N. B.—The mark on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercise on spelling and copying.

SPELLING AND COPYING.

Make a smooth copy of the following exercise, correcting all errors in orthography or spelling. No changes are permitted except those required to correct errors in orthography. Spelling, use of capitals, and all omissions and mistakes will be taken into consideration in marking this subject. Penmanship will be marked on this sheet:

The industrial training of girls is, perhaps, of even more importance than that of boys; for the whole economic management of the household rests on the woman. The health, morals, habits and happiness of the family are in her hands, much more than in those of the man, on the woman's knowledge or ignorance of household economies, food, cooking, and of the laws of health, largely depends the difference between the economy of wastefulness, comfort, or discomfort, health or disease, cleanliness or squalor, prosperity or poverty of the household.

DOMESTIC ECONOMY.

Write a brief essay on each of the following topics. Penmanship will be marked on this exercise:

1. Discuss fully the means a matron should adopt to secure to each girl pupil during the school year the greatest possible amount of experience in each of the industrial departments of the school. 2. Discuss fully some of the methods you would employ in preserving fruits, and state how you would teach those methods to the Indian pupils under your care.

KEEPING ACCOUNTS.

During March, 1896, the matron at an Indian school received and issued the following dormitory supplies: On March 2 she received 6 dozen towels, at 11½ cents each; 8 dozen cakes toilet soap, at 48 cents a dozen, and 2½ dozen sheets, at 80 cents each. On March 7 she issued 2 dozen towels, 1½ dozen cakes toilet soap, and ½ dozen sheets. On March 10 she received 2 dozen pillows, at \$1.10 each, and 5 dozen combs, at 84 cents a dozen. On March 14 she issued 1½ dozen towels, ½ dozen cakes toilet soap, 16 combs, at 35 cents each, and 1½ dozen hand mirrors, at 17 cents each. On March 21 she issued 14 toothbrushes, 16 hairbrushes, and 9 hand mirrors. On March 28 she issued 16 cakes toilet soap and 5 combs. Allow the same prices for supplies issued as received. Make an itemised statement of the entries above under proper headings, and show the total value of supplies in the matron's possession on April 1, 1896. (In the examination a printed form for this table will be given.)

NURSERY MANAGEMENT.

Write a brief essay on each of the following topics:

1. State in detail the manner in which you would keep the pupils' infirmary or sick room well ventilated and thoroughly disinfected. 2. Discuss the necessity and beneficial effects of teaching Indian pupils how to care properly for the sick.

Sec. 136. Principal teacher, Indian Service.—A separate examination for this grade has been discontinued, as it is the practice of the Department to promote from the grade of teacher to fill vacancies in this grade.

Sec. 137. Physician, Indian Service.—Age limits, 25 to 55 years. Application forms, 304 and 375. Entrance salary, \$720 to \$1,200 per annum. This examination may be taken on the date and at the places marked D on the schedule, section 9. Below will be found a table of subjects and weights, followed by specimen questions indicating the scope of the examination:

Subjects.	Weights.
1. Letter writing	5
2. Anatomy and physiology	15
3. Chemistry, materia medica, and therapeutics ..	10
4. General pathology and theory and practice of medicine	25
5. Surgery	20
6. Bacteriology and hygiene	10
7. Obstetrics	15
Total	100

LETTER WRITING.

Write a letter of not less than 150 words giving your views as to the prophylaxis applicable to tuberculosis. This exercise is designed chiefly to test the competitor's skill in simple English composition. In marking the letter, its errors in form and address, in spelling, capitalisation, punctuation, syntax, and style, and its adherence to the subject, will be considered.

ANATOMY AND PHYSIOLOGY.

1. Give the origin, course, and branches of any one of the following arteries: Brachial, temporal, left common carotid. 2. Differentiate between serous and mucous membranes. 3. Name and describe the glands of the small intestine, and give the functions of each one named. 4. Name the conditions, normal and pathological, which retard, suspend, or prevent the coagulation of the blood. 5. Describe urea, including composition, average quantity excreted daily, causes of variations in quantity, and a method of quantitative estimation.

CHEMISTRY, MATERIA MEDICA, AND THERAPEUTICS.

1. What is the difference between fixed and essential oils? Give an example of each. By what simple method may the one be determined from the other? 2. Describe the element iodine, giving its source, physical characteristics, chemical properties, and official preparations. 3. Describe a test for the presence of each of the following: (a) Sugar in urine; (b) bile, either test for pigment, or for biliary salts; (c) albumen; (d) blood-coloring matters. 4. Define anthelmintic, and name the remedies of this class. 5. Give the formula for peroxid of hydrogen and its therapeutic uses.

GENERAL PATHOLOGY AND THEORY AND PRACTICE OF MEDICINE.

1. Give the causes and pathology of amyloid degeneration, and name the organs most frequently affected. 2. Describe influenza, giving symptoms, complications, and treatment. 3. Describe aphasia, including its pathology. 4. Give the pathology and treatment of angina pectoris. 5. Give the symptoms preceding the appearance of the eruption of a typical case of (a) rubeola; (b) scarlatina. On what day does the eruption appear in each?

SURGERY.

1. Give the cause of gangrene. What are the indications for amputation in gangrene? 2. What are the contraindications for the use of ether as an anesthetic? Under what conditions is chloroform narcosis preferable to ether? 3. Describe conjunctivitis, enumerating its various forms, and giving the causes and treatment for each form named. 4. What complications of fractures may occur? Give the treatment in each complication named. 5. Give the causes and treatment of ankylosis.

BACTERIOLOGY AND HYGIENE.

1. Name the organisms which are chiefly concerned in the process of suppuration, and describe each one named. 2. Describe a method for the examination of sputum for tubercle bacilli. 3. What is the difference between antiseptics and disinfectants? Name some of the principal substances used for each purpose. Describe definitely how a room should be fumigated, after having contained an infectious case. 4. How may ammonia and nitrates be detected in drinking water, and what is the significance of each. 5. What climate is best adapted to sufferers from phthisis pulmonalis? State the reasons for the answer given.

OBSTETRICS.

1. What conditions are frequently mistaken for pregnancy? Give the differential diagnosis in each case. 2. What changes occur in the blood of a pregnant woman during gestation? 3. Give the diagnosis and treatment of prolapse of the funis. 4. Enumerate the symptoms which usually precede the beginning of labor? 5. Describe the management of the third stage of labor.

Sec. 128. Seamstress examination, Indian Service.—This examination is identical with the matron examination, except that in the fifth subject the competitor is required to write an essay on each of two topics relating to cutting, fitting, and sewing in lieu of those relating to nursery management. Time allowed, five hours. Age limit, 20 years or over. Application form, 304. This examination may be taken on the date and at the places marked D in the schedule, sec. 9. Below will be found a table of the subjects and weights, followed by specimen questions in cutting, fitting, and sewing, indicating the scope of the examination. For specimen questions on the other subjects see matron examination, section 125.

Subjects.	Weights.
1. Penmanship	10
2. Spelling and copying	10
3. Domestic economy	30
4. Keeping accounts	20
5. Cutting, fitting, and sewing	30
Total	100

CUTTING, FITTING, AND SEWING.

Write a brief essay on each of the following topics:

1. Give in detail practical methods for cutting, fitting, and making three different garments in the everyday outfit for a girl. 2. Discuss the necessity of teaching Indian girls expertness in sewing, especially by hand.

Sec. 129. Supervisor of Indian schools, Indian Service.—There are only three positions of this class, and no examination will be held until a vacancy exists. Age limit, 25 to 55 years. Applications will not be accepted until an examination is announced. When applications are made, Forms 304 and 375 should be used. The salary of this position is \$1,500 per annum, with a per diem of \$5. No specimen examination questions can be furnished.

Sec. 130. Superintendent, Indian Service.—A separate examination for this grade has been discontinued, as it is the practice of the Department to promote from the grade of teacher to fill vacancies in this grade.

Sec. 131. Teacher, Indian Service.—Time allowed, two days of six hours each. Age limit, 20 years or over. The age limitation does not apply to the wife of a superintendent of an Indian school who applies for an examination for the position of teacher or matron in the same school. Application forms, 304 and 375. Entrance salary, \$500 to \$1,200 per annum. This examination may be taken on the date and at the places marked D in the schedule, sec. 9. Below will be found a table of subjects and weights, followed by specimen questions indicating the scope of the examination.

Subjects.	Weights.
1. Penmanship	5
2. Spelling and copying	5
3. Pedagogy	15
4. Arithmetic and elementary algebra	20
5. English grammar and analysis	10
6. Geography	10
7. Nature study	5
8. History and government of the United States	10
9. Drawing	10
10. American literature	5
11. Physiology and hygiene	5
Total	100

PENMANSHIP.

N. B.—The mark on penmanship will be determined by legibility, rapidity, neatness, and general appearance, and by correctness and uniformity in the formation of words, letters, and punctuation marks in the exercise on spelling and copying.

SPELLING AND COPYING.

Make on this sheet a smooth copy of the following exercise, correcting all errors in orthography and capitalizing properly. Write in full all abbreviated words. No changes in phraseology are permitted, except those necessary to correct errors in orthography and capitalization and to write in full abbreviated words.

The school system should be absolutely emancipated from partysan politics and completely disassociated from municipal business. But we think the appointments should be made by some one person rather than by a board. The mayor is the representative of the whole city and all its interests. While not chosen with reference to the interests of the schools, he may be assumed to have information as to the fitness of citizens for particular responsibilities and to be desirous of promoting the educational interests of the people. If he is given the power of appointment he should be particularly enjoined by law to consider only the fitness of individuals, and to pay no regard to party affiliations unless it be to see that no one party has an overwhelming preponderance in the board.

PEDAGOGY.

Write an essay of not less than 150 words, discussing in detail the necessity of thorough methods of language study in primary work, and stating fully the methods which, in your opinion, should be used in teaching this subject to Indian pupils.

ARITHMETIC AND ELEMENTARY ALGEBRA.

1. Write an essay of not less than 150 words, presenting in detail a model lesson in common fractions for advanced primary pupils, showing fully your method of conducting the recitation, etc. (A credit of 30 per cent is assigned to this question.) 2. An Indian school is located upon a tract of land in the form of a rectangle three times as long as it is wide and containing 30 acres. If $\frac{1}{2}$ of the length of the tract be set off for school and play grounds, what will be the dimensions in feet of the tract thus set off? 3. The longitude of Washington is $77^{\circ} 0' 15''$ west, and that of Rome $12^{\circ} 28'$ east. When it is 4 o'clock p. m. at Washington, what time is it at Rome? 4. If 320 francs are equal to \$61.76, and \$357 are equal to 1,500 marks, how many francs are equal to 91,868 marks? 5. A note for \$1,320, payable in six months without grace, was to draw interest at 6 per cent per annum, until due, and if not then paid was to draw 8 per cent simple interest on the principal from the time it was due until paid. If the total amount, principal and interest, was \$1,447.60 at the time of payment, how long did the note run? (Compute interest on the basis of 360 days to the year.) 6. A field is in the form of an isosceles triangle. The two sides are 26 rods each, and the base is 20 rods. What is the altitude? 7. Find the F. C. D. of $2x + 3$, $2x^2 + x - 3$, and $4x^4 + 8x^3 - x - 6$. 8. The sum of two numbers is 70. The first divided by the second gives a quotient of 2 and a remainder of 1. What are the numbers? Solve by algebra.

ENGLISH GRAMMAR AND ANALYSIS.

This subject comprises an essay and practical questions and tests.

GEOGRAPHY.

1. Discuss the value and use of supplementary reading in teaching primary geography. 2. Describe Alaska as to location, physical features, climate, natural resources, etc. 3. Compare Ohio and Cuba as to climate, physical features, vegetation, leading industries, character of inhabitants, form of government, etc.

NATURE STUDY.

1. Discuss the peculiarities, characteristics, habits, etc., of the bobolink, including food, mode of nesting and rearing young, etc. (Present this topic in detail as to primary pupils.) 2. Discuss the advantages, in your opinion, of nature study to Indian children.

HISTORY AND GOVERNMENT OF THE UNITED STATES.

Write a brief essay on each of the following topics:

1. The advantages and disadvantages of the topical method of teaching the history of the United States. 2. The chief purposes to be achieved and the method to be employed in giving instruction in the civil government of the United States. 3. An account of the causes and results of the war of 1812.

DRAWING.

The drawings must be free-hand and made with pencil.

1. Sketch to represent a boy playing ball. 2. Make outline sketches to represent a dog's head, a pear, and a daisy. 3. Draw an ornamental design, using the conventionalized clover leaf four times as the unit of design. Design to be 3 inches square when complete.

AMERICAN LITERATURE.

Write an essay of not less than 150 words on one (and one only) of the following topics: 1. Name five American prose works (not novels) which you consider best adapted to schoolroom use in connection with elementary language study, name the author of each work, and give a brief outline of any one (and only one) of the works named, bringing out those features which render it especially valuable in the schoolroom. 2. Name three poems of Whittier adapted to school use, reproduce in prose the substance of the essential parts of one of them, and state how you would teach the poem in connection with elementary language study.

PHYSIOLOGY AND HYGIENE.

1. State the essential differences between voluntary and involuntary muscle (a) as to structure, (b) as to function. 2. Enumerate five parts of the eye and name one function of each part, respectively. Give directions for care and use of the eyes. 3. Describe fully the capillaries, including their functions. 4. Describe the effects of alcoholic beverages (a) taken in assimilable quantities, (b) taken excessively and habitually. 5. What are the essential points to be considered in the study of school hygiene.

Sec. 132. Trained nurse, Indian service.

Age limit, 20 years or over. Application forms, 304 and 375. Time allowed, seven hours. Entrance salary, \$600.

This examination may be taken on the date and at the places marked D in the schedule, section 9.

Subjects.	Weights.
1. Anatomy	20
2. Hygiene of the sick room	20
3. General nursing	20
4. Surgical nursing	20
5. Obstetrical nursing	20
Total	100

No specimen questions or tests can be furnished at this time. The scope of the examination, however, is wholly within the limits of the customary course of training given to trained nurses throughout the country.

GOVERNMENT PRINTING SERVICE.

Sec. 133. (a) The examinations for the Government Printing Office are bookbinder, compositor, electrotpe finisher, electrotpe molder, pressman, skilled laborer, and stereotyper.

(b) The requirements for this branch are clearly indicated by the names of the different examinations provided, and the subjects of each examination as shown in the specimen examination questions.

(c) Men only may be certified for the positions of pressman, bookbinder, stereotyper, and electrotyper, but both men and women may be certified for the positions of compositor and skilled laborer. Persons who pass the skilled-laborer examination become eligible to such minor positions as feeder, helper, folder, sewer, counter, numberer, gatherer, etc. For positions other than the recognized trades those eligibles who have shown previous experience may be given preference in appointment. Pressmen and compositors may also be certified to like positions in any part of the classified service. Clerical positions in this service are filled from either the compositor or departmental clerk register.

(d) No applicant for the position of compositor, pressman, bookbinder, stereotyper, or electrotyper will be admitted to examination unless it is shown that he has served five years in the particular trade in which he desires to be employed, three of which years he must have served as an apprentice, and at least one year as a journeyman. The Commission reserves the right to have the statements of applicants and their vouchers verified whenever found necessary, and to require such additional evidence as may be deemed essential.

(e) All examinations for the recognized trades in the Government Printing Office include a sheet upon which the applicant must furnish a detailed statement showing the office or offices in which he learned his trade, for whom and for how long he worked while an apprentice and while a journeyman, and the character of the work upon which he was engaged, etc. This statement is intended to furnish to the appointing officer the complete trade history of the applicant, and it therefore should be made as complete and comprehensive as possible.

(f) For those positions in the Government Printing Office in which experience is an element, the following scale of marks will be used:

Five years' experience	70
Six years' experience	75
Seven years' experience	80
Eight years' experience	85
Nine years' experience	90
Ten years' experience	92
Eleven years' experience	94
Twelve years' experience	96
Thirteen years' experience	98
Fourteen years' experience	99
Fifteen years' experience or more	100

Sec. 134. Bookbinder, Government Printing Service.—The subjects and weights of this examination are identical with those of the third-grade basis, except that in addition to these subjects competitors will be marked on experience and character as a workman, as determined by the certificates in Form 394. Time allowed, three hours. Age limit, 21 years or over. Application forms, 304 and 394. This examination may be

taken on the dates and at the places marked A, B, or C in the schedule, section 9. For character of the third-grade questions see sec. 64. Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling.....	15
2. Arithmetic.....	15
3. Letter writing.....	15
4. Penmanship.....	15
5. Copying from plain copy.....	15
6. Experience.....	10
7. Character as a workman.....	15
Total.....	100

Sec. 135. Compositor, Government Printing Service.—Subjects, third-grade basis examination, except spelling, which will be more difficult and of a special character, and practical tests, consisting of copying from rough draft, correcting proof, tabulating, and abbreviations. The examination is the same for the book and newspaper branch and the job-printing branch, with the exception that the job compositors can be examined in the arrangement of work for job printing, and if their mark on it, added to their mark on the rough draft and the sum divided by 2, is greater than the mark on the rough draft alone, the average mark will be the credit to be given; otherwise the mark on the rough draft alone will be the credit to be given, but the exercise in the arrangement of work for job printers will accompany the examination papers as an exhibit showing the applicant's proficiency in that branch. Experience and character as a workman are also elements in this examination. Time allowed, five and one-half hours. Age limit, 21 years or over for males, and 18 years or over for females. Application forms, 304 and 394. This examination may be taken on the dates and at the places marked A, B, or C, in the schedule, sec. 9. For character of third-grade subjects see section 64.

The subjects and weights of this examination are as follows:

(1) spelling, 5; (2) arithmetic, 5; (3) letter writing, 5; (4) penmanship, 5; (5) copying from plain copy, 5; (6) abbreviations, 5; (7) correcting proof, 15; (8) tabulating, 16; (9) copying from rough draft and arrangement of work for job printing, 20; (10) experience, 10; (11) character as a workman, 15; total, 100.

The following are specimen practical questions indicating the scope of the examination:

ARRANGEMENT OF TITLE-PAGE—FOR JOB PRINTERS ONLY.

To the competitor.—Copy on the lines at the top of the accompanying sheet the paragraph below, properly capitalizing and punctuating it for a title-page. The size of the paper upon which the title-page is to be printed is 5 inches wide and 7½ inches long. Rule off a space the exact size of the paper, as indicated above. Then mark off the matter into lines, indicating the word or words to go in each by drawing a perpendicular line between the words, thus |, and instead of giving size and style of type to be used, draw a box, thus , indicating size of type and length of line by width and length of box. Place in each box in figures the numbers of the words to be inserted therein, but do not write the words themselves. No transposition of the matter will be allowed. See illustration below.

EXERCISE.

united states civil service commission. rules for marking examination papers together with notes on the rules and regulations for the central board of examiners. approved by the commission october 17 1895 washington government printing office 1895

(This illustration is to act as a guide for competitors in carrying out above instructions.)

¹the ²vision ³or ⁴hell ⁵purgatory ⁶and ⁷paradise ⁸of ⁹dante ¹⁰alighieri ¹¹translated by ¹²the ¹³rev ¹⁴h ¹⁵f ¹⁶cary ¹⁷a ¹⁸m ¹⁹new
york ²⁰thomas ²¹y ²²crowell ²³and ²⁴co ²⁵1897

The | Vision; | or | Hell, Purgatory, and Paradise, | of | Dante Alighieri. | Translated by | the Rev.
H. F. Cary, A. M. | New York: | Thomas Y. Crowell & Co. | 1897.

ABBREVIATIONS.

(a) Write in full the word or words represented by the following signs and abbreviations: Ala.; owl.; bro.; lhd.; mme.; pp.; rt. hon.; viz.; ry.; maj.

(b) Write the proper abbreviation or sign for each of the following: January; colonel; balance; agent; railway; longitude; debtor; document; cavalry; article.

COPYING FROM ROUGH DRAFT.

Same as in first-grade basis, sec. 62.

CORRECTING PROOF.

For this exercise the competitor is given a photolithographic sheet of proof on which corrections have been noted by the proof reader, and he is required to explain in writing the corrections indicated by the proof reader on the printed proof sheet. The exercise is designed chiefly to test the competitor's ability to follow the instructions of the proof reader and to interpret his marks. The corrections to be made are indicated in the same manner as in ordinary proof in a printing office. For convenience

each word or group of words to be corrected is numbered on the sheet, and the competitor, in making the correction, writes the number of the word to be corrected, stating opposite it what correction is required—that is, what letter or letters are to be inserted, omitted, etc., or what other changes are indicated by the marks of the proof reader.

TABULATING.

Arrange and copy the matter in the paragraph below in a 5-column table, with appropriate general head and box heads. The table should be 30 ems nonpareil wide, the rules 4 to nonpareil, with en periods and commas. Each figure column to bear off from the rules an en quad on the right and an em on the left. Give the cast of each column in the table. [In marking this exercise form and cast will be weighted equally.]

Below is given the population of certain States of the United States, as shown by the census reports of 1860, 1870, 1880, and 1890: The population of Alabama was 964,201 in 1860, 996,962 in 1870, 1,262,585 in 1880, and 1,513,017 in 1890; the population of Arkansas for the same four years, respectively, was 435,450, 484,471, 802,525, 1,128,179; California, 379,994, 560,247, 864,694, 1,208,130; Colorado, 34,277, 39,864, 194,327, 419,198; Connecticut, 460,147, 537,454, 622,700, 746,258; Delaware, 112,216, 125,015, 146,608, 168,498.

Sec. 136. Electrotpe-finisher, Government Printing Service.—Subjects, third-grade basis examination, and the correction of proof exercise of the compositor examination. In addition to their being rated on the exercises named, competitors will be rated on experience and character as workmen as determined by the certificates in application form 394. Time allowed, four hours. Age limit, 21 years or over. Application forms, 304 and 394. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. For character of third-grade subjects, see sec. 64, and character of the practical test in the correction of proof, see compositor examination, sec. 135. Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling (third grade).....	7.5
2. Arithmetic (third grade).....	7.5
3. Letter writing (third grade).....	7.5
4. Penmanship	7.5
5. Copying from plain copy (third grade).....	7.5
6. Correction of proof (compositor).....	37.5
7. Experience.....	10
8. Character as a workman	15
Total	100

Sec. 137. Electrotpe-molder, Government Printing Service.—Subjects, third-grade basis examination, and experience and character as a workman as determined by the certificates in application form 394. Time allowed, three hours. Age limit, 21 years or over. Application forms, 304 and 394. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. For character of third-grade subjects, see sec. 64. For a table of the subjects and weights of this examination, see bookbinder examination, sec. 134.

Sec. 138. Pressman, Government Printing Service.—Subjects, third-grade basis examination, and experience and character as a workman as determined by the certificates in application form 394. Time allowed, three hours. Age limit, 21 years or over. Application forms, 304 and 394. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. For character of the third-grade subjects, see sec. 64. For a table of the subjects and weights of this examination, see bookbinder examination, sec. 134.

Sec. 139. Proof reader, Government Printing Service.—The position of proof reader in the Government Printing Office is filled by the promotion of compositors, and hence no examination for it will be given by the Commission.

Sec. 140. Skilled laborer, Government Printing Service.—Subjects, third-grade basis examination. Time allowed, three hours. Age limit for males, 21 years or over; for females, 18 years or over. Application form, 304. This examination may be taken on the dates and at the places marked A, B, or C, in the schedule, sec. 9. For character of third-grade subjects, see sec. 64. See sec. 101, skilled laborer, departmental service. Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling	20
2. Arithmetic	20
3. Letter writing	20
4. Penmanship	20
5. Copying from plain copy.....	20
Total	100

Sec. 141. Stereotyper, Government Printing Service.—Subjects, third-grade basis examination, and experience and character as a workman as determined by the certificates in application form 394. Time allowed, three hours. Age limit, 21 years or over. Application forms, 304 and 394. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, sec. 9. For character of the third-grade subjects see section 64.

For a table of the subjects and weights of this examination see bookbinder examination, section 134.

STEAMBOAT-INSPECTION SERVICE.

Sec. 142. The examinations for the Steamboat-Inspection Service may be taken on the date and at the places marked D in the schedule, section 9.

Prerequisites to examination:

(a) Only residents of the local inspection district in which the vacancy occurs will be certified. In some districts, and in several of the cities of the other districts, no assistant inspectors are employed, the duties being performed by local inspectors. Vacancies in the position of assistant inspector will be filled from examination. Vacancies in the position of local inspector at places where only local inspectors are employed will be filled from examination, while vacancies in the position of local inspector at those places at which assistant inspectors are employed may be filled by the promotion of assistant inspectors who have served as such for at least one year, and who have had at their appointment as assistant inspector the three years' preliminary experience required under license, or who have had the five years' experience under license, as required for the position of local inspector, if in either case the assistant inspector is competent to fill the position of local inspector, or from examination. However, if an applicant has had, since the termination of the required term of service on board of steamers to the time of making application for examination, continuous service in kindred employments to those of officers of steam vessels, fitting him for the position of inspector, the fact that he has not served as an officer of steam vessels since the termination of such service will not disqualify him. The salaries of these positions range from \$1,200 to \$2,500 per annum.

(b) Applications will not be accepted from persons under 25 or over 55 years of age, or from persons who are physically disqualified from performing the duties required of them, as shown in the physical examination prescribed in the blank forms 304 and 363 furnished by the commission.

(c) Assistant inspectors, as well as local inspectors, are employed at the following-named places: Baltimore, Md.; Boston, Mass.; Buffalo, N. Y.; Chicago, Ill.; Cleveland, Ohio; Milwaukee, Wis.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa., and San Francisco, Cal.

(d) Local inspectors only are employed at the following-named places: Albany, N. Y.; Apalachicola, Fla.; Bangor, Me.; Burlington, Vt.; Charleston, S. C.; Cincinnati, Ohio; Detroit, Mich.; Dubuque, Iowa; Duluth, Minn.; Evansville, Ind.; Gallipolis, Ohio; Galveston, Tex.; Grand Haven, Mich.; Jacksonville, Fla.; Louisville, Ky.; Marquette, Mich.; Memphis, Tenn.; Mobile, Ala.; Nashville, Tenn.; New Haven, Conn.; New London, Conn.; Norfolk, Va.; Oswego, N. Y.; Pittsburg, Pa.; Port Huron, Mich.; Portland, Me.; Portland, Oreg.; Providence, R. I.; St. Louis, Mo.; Savannah, Ga.; Seattle, Wash.; Wheeling, W. Va., and Sitka, Alaska.

(e) Local and assistant inspectors of boilers must be physically able to enter a boiler through a manhole 9 by 15 inches, as required by sec. 21, Rule II, of the Board of Supervising Inspectors of Steam Vessels.

(f) Special attention is called to the following section of the United States Revised Statutes:

Sec. 4416. No person interested, either directly or indirectly, in any patented article required to be used on any steamer by this title, or who is a member of any association of owners, masters, engineers, or pilots of steamboats, or who is directly or indirectly pecuniarily interested in any steam vessel, or who has not the qualifications and acquirements prescribed by this title, or who is intemperate in his habits, shall be eligible to hold the office of either supervising or local inspector, or to discharge the duties thereof; and if any such person shall attempt to exercise the functions of the office of either inspector he shall be deemed guilty of a misdemeanor, punishable by a fine of five hundred dollars, and shall be dismissed from office.

Sec. 143. Local inspector of hulls. Application form 1087. For seaboard ports an applicant must have had at least five years' actual practical experience as master or chief mate of seagoing steam vessels of 500 gross tons or over; for inland ports an applicant must have had at least five years' actual practical experience as master or first-class pilot of steam vessels of over 100 gross tons. In either case a portion of

the required five years' experience must have been within the seven years next preceding the date of application, which five years' experience must have been under United States license of the highest grade granted upon the waters on which the applicant has been so employed. The experience as master must have been on vessels required by law to carry a licensed master. The fact that he has been so licensed must be of record in the Treasury Department. An applicant must be free from the defect of color-blindness. (See section 142, and for examination subjects, specimen questions, and list of seaboard ports, section 147.)

Sec. 144. Assistant inspector of hulls.—Application form 1087. An applicant must have the same qualifications as for local inspector, except that the required term of service under license must be three years, a portion of which service must have been within the five years next preceding the date of application. At the port of New York some of the positions do not require a knowledge of sea navigation, and for these there are necessary only the requirements for inland port positions; at this port, therefore, the subject of sea navigation in the examination will be optional, but all applicants who can qualify for seaport positions are advised to take this subject, as their prospects of appointment are thereby increased. (See section 142, and for examination subjects and specimen questions section 147.)

Sec. 145. Local inspector of boilers.—Application form 1087. An applicant must have had at least five years' actual practical experience as chief engineer of ocean or inland steamers of over 100 gross tons, as first assistant engineer of inland steamers of 600 gross tons or over, or as first assistant engineer of ocean steamers of 1,500 gross tons or over, a portion of which experience must have been within the five years next preceding the date of application. The experience required must have been under United States license, and the fact that he has been so licensed must be of record in the Treasury Department. (See section 142, and for examination subjects and specimen questions section 148.)

Sec. 146. Assistant inspector of boilers.—Application form 1087. An applicant must have the same qualifications as for local inspector, except that the term of service required under license must be three years, a portion of which must have been within the five years next preceding the date of application. (See section 142, and for examination subjects and specimen questions section 148.)

Below will be found a list of subjects and weights, followed by specimen questions indicating the scope of the examination for the Steamboat-Inspection Service:

Sec. 147. Local inspector and assistant inspector of hulls.—1. Letter writing, weight, 10 per cent. 2. Arithmetic, weight, 10 per cent; this subject will consist of problems in common and decimal fractions, mensuration, and square root. 3. Hull construction, weight, 30 per cent, when the subject of sea navigation is not taken, and 20 per cent when that subject is taken; this subject will comprise questions relating to the construction and strength of wood and iron hulls of vessels, and a description of various parts and methods of joining the same. 4. Pilot rules and inland navigation, weight, 20 per cent; this subject will comprise questions of the pilot rules of the board of supervising inspectors of steam vessels, and inland navigation. 5. Lifeboats and life rafts, weight, 10 per cent; this subject will comprise questions relating to the capacity of lifeboats and life rafts. 6. Experience, weight, 20 per cent. 7. Sea navigation, weight, 10 per cent; this subject will include practical questions relating to sea navigation.

For all positions of inspector of steam vessels experience will be rated as follows: For three years' service as required, 70 per cent; four years, 74 per cent; five years, 78 per cent; six years, 82 per cent; seven years, 86 per cent; eight years, 90 per cent; nine years, 92 per cent; ten years, 94 per cent; eleven years, 96 per cent; 12 years, 98 per cent; 13 years or over, 100 per cent; with the exception that experience only as chief mate or pilot will be given a rating of 70 per cent and no more. For each years' experience as United States inspector of steam vessels 6 per cent additional will be allowed, the percentage in no case to exceed 100.

Before an applicant's name will be placed on the eligible list for appointment to the position of local or assistant inspector of hulls he must receive at least 70 per cent on the examination in hull construction, at least 70 per cent in pilot rules and inland navigation, at least 60 per cent in lifeboats and life rafts, and a general average of at least 70 per cent.

Each competitor should bring to the examination a copy of Bowditch's Navigator, or some other standard work on navigation, to be used only on the second sheet of this subject. The time allowed for this examination *without* the subject of sea navigation is two days (seven hours the first day and one and one-half hours the second); when taken *with* the subject of sea navigation, two days (seven hours the first day and four hours the second).

The subject of sea navigation will be required only at the following-named ports:

San Francisco, Cal.	Boston, Mass.	Charleston, S. C.	Galveston, Tex.
Seattle, Wash.	Philadelphia, Pa.	Savannah, Ga.	Mobile, Ala.
Portland, Oreg.	Baltimore, Md.	Jacksonville, Fla.	Apalachicola, Fla.
New York, N. Y.	Norfolk, Va.	New Orleans, La.	

(See Sec. 144.)

LETTER WRITING.

Write a letter of not less than 100 words, stating your opinion as to the qualifications a competitor should have to successfully fill the position for which you are being examined.

This exercise is designed chiefly to test the competitor's skill in simple English composition. In marking the letter, its errors in form and address, in spelling, capitalization, punctuation, syntax, and style, and its adherence to the subject, will be considered.

ARITHMETIC.

1. Add the following (a short column of figures will here be given), and subtract 49,816,455,786 from the sum. 2. Multiply 37 $\frac{1}{2}$ by 400.3, and divide the product by 93.5. (Solve by decimals.) 3. If a cubic foot of coal weighs 43 pounds, find the number of tons of coal in a bin 5 feet 6 inches wide, 6 feet 9 inches deep, and 19 feet 6 inches long. [1 ton = 2,240 pounds.] 4. How many cubic feet of water can be held in a standpipe 10 feet 5 inches in diameter and 36 feet high? [The area of a circle is 0.7854 times the square of its diameter.] 5. Extract the square root of 52,2729.

HULL CONSTRUCTION.

RIVER SERVICE.

For all inspection ports in the fourth, fifth, sixth, and seventh supervising inspection districts. The first seven questions apply to wooden hulls. Give answers in full.

1. Describe the keel, how fastened and joined to stem and sternpost, and how the different lengths are connected. 2. Name the several parts of a transverse frame (rib) of a vessel, and describe how connected and joined. 3. Describe the main keelson and the fastenings driven through it. Describe sister keelsons and bilge keelsons, and state their use. 4. Describe a deck beam, how supported, and how connected to the hull. 5. Describe the framing of a hatch. 6. Locate and describe the stem, apron, deadwood (forward), and stemson. 7. Give the names and positions of the different strakes of inside and outside planking. The last three questions apply to iron or steel hulls. 8. Give a general description of the following-named parts of an iron hull, and state how connected to other parts of the hull: Keel (flat or bar), stem, main keelson, bilge stringer, deck beam, tie plates, transverse frame (rib), floor plate, reversed frame, and deck-beam pillars or stanchions. 9. Describe how two adjoining strakes of hull plating are united, and how fastened to the frames and stem. Describe how the ends of the plates are joined in the transverse joints. 10. Describe how wood-n deck planking is fastened to iron deck beams.

PILOT RULES AND INLAND NAVIGATION.

NOTE.—Preparatory to answering the following questions, the competitor will name the water upon which his answers apply; whether, 1st, the inland waters of the Atlantic and Pacific coasts; 2d, the Great Lakes; or 3d, the Red River of the North, the Mississippi, or other rivers whose waters flow into the Gulf of Mexico.

1. Name the points of the compass in the quadrant from south to west. 2. Explain the use of the compass and chronometer in the navigation of rivers or other inland waters. 3. When two steamers are approaching each other from opposite directions, what whistle signal is given to pass to the right or on the port side of each other? How many blasts of the whistle are given to pass to the left? 4. If, when two steamers are running in the same direction, the pilot of the steamer astern shall desire to pass to the right or starboard side of the steamer ahead, what signals should be given? 5. If the course or intention of an approaching steamer is not understood by a pilot from signals being given or answered erroneously, or other cause, what signals should be given and what precautions taken? 6. What is meant by "cross signals," and should they ever be given? 7. What whistle signal should be given by a steamer when leaving her dock or berth? 8. Describe fully all lights required by law to be carried on steam vessels when underway and not towing, when navigating the waters named by candidate, at head of this sheet. 9. What fog signals are required of steam vessels underway and not towing? 10. What colored light is carried on the starboard side of a sail vessel underway? What on the port side? Through an arc of the horizon of how many points of the compass, from right ahead, should these lights show on their respective sides? What is the least distance they should be visible?

CAPACITY OF LIFEBOATS AND LIFE RAFTS.

1. What number of persons would be allowed to a lifeboat of the following dimensions: Length, 24 feet; breadth, 5 feet 6 inches; and depth, 3 feet 4 inches, on a bay steamer? Determine in accordance with the following rule (section 2, Rule III, rules and regulations of the board of supervising inspectors): Multiply the outside length, outside width, and inside depth together, and (multiply) the product by 0.6; and divide the (last) product by 10 for ocean, lake, bay, or sound steamers; * * * the quotient will be the number of persons such a boat is allowed to carry. 2. A life raft made of metal and wood is constructed of two cylinders, each with two conical ends, the outside dimensions being as follows: Length of each cylinder, 14 feet; diameter of each cylinder, 14 inches; altitude of each cone, 12 inches. Volume of all other parts of raft taken together is $2\frac{1}{2}$ cubic feet. (Give work in full.) Total weight of raft in air, 450 pounds. Take buoyancy of 1 cubic foot of inclosed space as 62 pounds. What number of persons would be allowed to such raft on river steamers, allowing 156 pounds actual buoyancy for every person allowed? (Give work in full.)

Extract from Steamboat Inspectors' Manual:

Determination of capacity of life raft.—The net buoyancy of a life raft, when wholly immersed in water, equals the weight of displaced water less the weight of raft in air; so that the buoyancy can be obtained by estimating volume of all fixed parts and water-tight spaces, calculating the weight of equal volume of water, and deducting weight of raft in air.

(The volume of the cylinder equals the area of its base multiplied by its length. The volume of a cone equals the area of its base multiplied by one-third of its altitude. The area of a circle equals the square of its diameter multiplied by 0.7854.)

SEA NAVIGATION.

1. Name the points of the compass in the quadrant from south to west. 2. Explain the terms compass course, true course, variation, deviation, and leeway. 3. Describe the log line and how the speed of a vessel is determined by its use. Calculate the length of a knot for a 30-second glass, a nautical mile being equal to 6,080 feet. 4. What is apparent time, mean time, sidereal time, and equation of time? 5. Explain how a ship's position is determined by "cross bearings." Second, how is a ship's position determined by reference to a single fixed object visible from the ship. 6. Explain great-circle sailing and rhumb sailing, and the advantages of each.

NOTE.—Competitors will provide themselves with copies of Bowditch's Navigator, which may be used in the solution of the questions 7, 8, 9, and 10 only.

7. Calculate the course and distance from the island of Hawaii to San Francisco, Cal., on Mercator's principle. (Bowditch's Navigator, article 128.) San Francisco, latitude $37^{\circ} 47' N.$, longitude $122^{\circ} 27' W.$; Hawaii (Hilo), latitude $19^{\circ} 43' N.$, longitude $155^{\circ} 1' W.$ 8. A steamship under sail makes the following log in passing east of the Bermuda Islands from latitude $31^{\circ} 40' N.$, longitude $63^{\circ} 10' W.$

Correct the course for leeway, variation, and deviation in the following table, and determine the latitude and longitude in, and the course and distance made good from the point of which the latitude and longitude are given, by dead reckoning.

Knots.	Tenths.	Compass courses.	Wind.	Lee-way.	Vari-ation.	Devia-tion.	Corrected courses.	N.	S.	E.	W.
10	5	N. 22° W.	SW.	30°	60° W.	70° E.					
10	0	N. 12° E.	W.	60°	60° W.	40° E.					
9	4	N.	W.	80°	60° W.	50° E.					
8	0	N.			60° W.	50° E.					
8	0	N. 20° W.			60° W.	70° E.					
10	0	N. 37° W.	NE.	70°	60° W.	10° W.					

9. On July 29, 1894, in longitude $37^{\circ} 30' W.$, the observed meridian altitude of the sun's lower limb, bearing south, was $86^{\circ} 20'$. Height of eye, 15 feet. Index correction, 2'. The corrected declination for the given longitude and time of observation is $18^{\circ} 41' 10'' N.$, and the semidiameter of the sun is $15' 48''$, as obtained from the Nautical Almanac. Determine the latitude. 10. At sea, November 28, 1886, p. m., in latitude $42^{\circ} 20' N.$, longitude by dead reckoning $31^{\circ} 15' W.$, the observed altitude of the sun's lower limb was $8^{\circ} 50'$. Height of eye above water, 19 feet. Index correction, +4'. Chronometer time of observation, November 28 d. 5 h. 20 m. Chronometer slow on Greenwich at time of observation 9 m. 58 s. From the Nautical Almanac, for time of observation, the declination is found to be $21^{\circ} 24' 45'' S.$; equation of time, -11 m. 45 s.; and semidiameter of the sun, $16' 15''.44$. Determine the longitude by observation.

Sec. 148. Local inspector and assistant inspector of boilers.—Two days of eight hours each will be allowed for this examination. Below will be found a table of subjects and weights, followed by specimen practical questions, indicating the scope of the examination:

Subjects.	Weights.
1. Letter writing	10
2. Arithmetic..... (This subject will consist of problems in common and decimal fractions, mensuration, and square root.)	10
3. Boilers and machinery..... (This subject will consist of practical questions relating to boilers, engines, and machinery of steam vessels, and strength of boiler material.)	60
4. Experience.....	20
Total	100

Before an applicant's name will be placed on the eligible list for appointment to the position of local or assistant inspector of boilers, he must receive at least 70 per cent on the examination in boilers and machinery, and a general average of at least 70 per cent.

LETTER WRITING.

This subject is the same as given above for inspectors and assistant inspectors of hulls. (See sec. 147.)

ARITHMETIC.

1. Add the following (here will be given a short column of figures) and subtract 49,816,455,786 from the sum. 2. Multiply 374 by 400.3, and divide the product by 93.5. (Solve by decimals.) 3. If a cubic foot of coal weighs 63 lbs., find the number of tons of coal in a bin 5 ft. 6 in. wide, 6 ft. 9 in. deep, and 19 ft. 6 in. long. [1 ton = 2,240 lbs.] 4. How many cubic feet of water can be held in a standpipe 10 ft. 5 in. in diameter and 36 ft. high? [The area of a circle is 0.7854 times the square of its diameter.] 5. Extract the square root of 52,2729.

PRELIMINARY QUESTIONS.

1. What is your trade or occupation? 2. How many years have you been engaged in such trade or occupation? 3. What qualifications or fitness do you possess, and what special educational training or experience have you had which fit you for the position for which you are being examined?

BOILERS AND MACHINERY (RIVER SERVICE).

1. Give a sketch of each of the following types of boiler: (a) Tubulous, (b) locomotive. Explain briefly the advantages and disadvantages of each type. 2. Describe in detail what is now considered the most approved method of testing a new steam boiler for strength, and in order that the same conditions may exist, as nearly as possible, as when the boiler is in actual use, and to avoid undue shock and strain on the boiler. 3. Describe how you would test an old boiler in place on board a vessel with the conveniences usually found on board. 4. What is meant by ultimate strength, proof strength, and working strength of material used in the manufacture of boilers? 5. Describe the most approved method now in use for bracing and staying tube sheets, flat surface in steam spaces,

and water legs, giving by sketch the form of braces and stay bolts. 6. With the following data work out the distance apart from center to center of stay bolts: $S = \frac{2h^2 C}{P}$, P = Pressure per square inch = 150, S = Distance between stays, C = Constant = say 54,000, h = Thickness of plate = $\frac{7}{16}$ ". Let factor of safety = 6 when $C = 9,000$. 7. Required the weight on the end of a safety-valve lever with the following data: W = Weight, L = Lever 48" long, G = Center of gravity of lever = 20", V = Weight of valve = 6 lbs., I = Distance between center of fulcrum and center of valve, w = Weight of lever = 10 lbs., P = Steam pressure = 100 lbs., A = Area of valve = 12.566. 8. What should determine the area of safety-valve opening? 9. What is the best type of safety valve for boilers using high steam pressure, and why is the lever valve objectionable? 10. What causes internal corrosion in a boiler, and what means can be taken to prevent it? 11. A sample piece of boiler plates, 0.63 inch thick, 1.01 inches wide, breaks at a strain of 39,100 pounds; what is the tensile strength of plate per square inch? The same sample after breaking measures 0.70 inch wide and 0.38 inch thick at point of rupture; what is the reduced area per cent from the original measurements? 12. What are the advantages and what the disadvantages of multiple expansion engines? 13. What are the elements absolutely required in order to calculate the horsepower of an engine? 14. State the uses to which a steam indicator is applied. 15. Sketch an indicator card from a condensing engine cutting at two-thirds the stroke of the main valve; indicate on the card the technical names of the various lines and the positions of the valve at various points of the stroke. 16. Describe the Stephenson link motion, and state its advantages and disadvantages.

BOILERS AND MACHINERY (SEA AND LAKE SERVICE).

1. Describe in detail the following types of boiler: (a) Tubulous or water-tube, (b) tubular or marine, (c) locomotive, (d) outside furnace land boiler. 2. What are the disadvantages of the ordinary tubular cylindrical boiler for steam pressure now in use, and the advantages of the water-tube boiler? 3. What precautions are now taken to guard against galvanic action or corrosion on the interior of marine boilers? 4. What are the precautions taken to prevent scale deposit on the interior of boilers using salt water? 5. In using lake or river water in boilers what deposits are mostly to be feared, and what precautions are taken to guard against them? 6. In using in a boiler well water, which is hard by reason of carbonate of lime or magnesia, how can it be made soft? 7. What form of safety valve is best adapted to high steam pressures? 8. Name the safety appliances usually attached to a boiler. 9. What should be the capacity of a safety valve? 10. Should oil be used in boilers? If so, what kind, and for what purpose? 11. What advantages has a welded furnace seam over one that is riveted? 12. What is the strength of a single-riveted lap joint as compared to the solid plate? 13. Which is the stronger, chain riveting or zigzag riveting, and what is their proportional strength? 14. What is the advantage of a butt-strap joint over a lap joint? 15. Describe the process of inspecting and testing a new boiler to see that the workmanship is good, stating the most approved modern practice of testing. 16. For a cylindrical return tubular boiler 12 feet diameter, working steam pressure 150 pounds, 2 furnaces, plain, 40 inches diameter, 6 feet long, material mild steel, tensile strength of material 60,000 pounds per square inch, work out the following: (a) Thickness of shell, (b) thickness of furnace, (c) size and spacing of stay bolts, (d) diameter of rivets.

(a) Thickness of shell:

$$t = \frac{D P}{2 \times K \times .80 + 16}$$

Where t = thickness of shell,

K = coefficient, allowing factor of safety of $\frac{4}{3}$,

$$K = \frac{60,000}{4} \times .80$$

Strength of joint = 80 per cent of plate.

Add $\frac{1}{16}$ for corrosion.

(b) Thickness of furnace:

$$\text{For plain furnaces with rings } t = \frac{P \times d}{9,000}$$

Where P = working pressure,

d = diameter in inches.

(c) Size and spacing of stay bolts:

Space stay bolts 8 inches apart from center to center, allowing 6,000 pounds per square inch section—

$$\text{Area of stay} = \frac{S \times P}{6,000}$$

Where S = area to be stayed,

P = working pressure.

(d) Diameter of rivets:

Use double butt strap triple riveted. Double shear equals 1.75 single shear, which is, say, $\frac{3}{4}$ tensile strength; rivet strength to equal 80 per cent of sheet. Space inner and outer row of rivets 8 inches apart, omitting alternate rivets in outer row, which gives five (5) rivets in each space, we have

$$a = \frac{t \times 8 \times .8 \times 23}{5 \times 1.75 \times 23} \quad \text{Where } a = \text{area of rivet,} \quad t = \text{thickness of sheet.}$$

17. Give the thickness for corrugated furnace for above boiler, corrugation 6 inches pitch, two (2) furnaces forty (40) inches in diameter, seven feet six inches ($7' 6''$) long.

$$\frac{12,500 \times T}{D} = \text{working pressure, where } T = \text{thickness in inches,} \quad D = \text{diameter in inches.}$$

18. Define the following in relation to the screw propeller: (a) Diameter of the screw; (b) disk area; (c) pitch; (d) apparent slip; (e) real slip; (f) fraction of the pitch; (g) angle of the screw. 19. What is meant by a uniform pitch, and an expanding pitch? 20. Explain briefly the advantages and disadvantages of multiple expansion engines and high-steam pressure. 21. Describe briefly the necessary machine work on a large steam-engine cylinder, to fit it for erection, after it is delivered from the foundry. 22. Describe briefly the operation of boring out shaft tubes and struts. 23. Describe briefly the molding of a cast-iron propeller, either by "sweeping up" or from a pattern in dry sand or loam (contestant to choose). 24. Describe a modern surface condenser as used on board ship, including method of packing tubes and provision for proper distribution of water. 25. Sketch a good practical indicator card for a condensing engine cutting off at two-thirds stroke with main valve, mark on the card the technical name for each line, and show by dotted lines the result of defect in adjustment of the valve.

MARINE-HOSPITAL SERVICE.

Sec. 149. (a) The examinations for hospital stewards and engineers for the Marine-Hospital Service may be taken on the date and at the places marked D in the schedule, section 9. See sections 150-153.

(b) For minor positions in this service, such as hospital attendant, quarantine attendant, nurse, master, deck hand, pilot, seaman, cook, cabin boy, shopkeeper, and boatman, no educational test will be given, but for all of these positions applicants should apply for the position of hospital attendant, this being the general designation for all such places, but should be careful to state, also, the particular kind or kinds of work under this general designation in which they have experience. The age limit for hospital attendant is 20 years or over. All applicants for this service must have the medical certificate on the application blank, form 304, filled out by a medical officer of the Marine-Hospital Service; certificates from other physicians *will not be accepted* except whenever the requirement that the medical certificate shall be executed by an officer of the Marine-Hospital Service would work a hardship upon the applicant because of his being distantly located from such an officer, such applicant may furnish the certificate executed by any physician, and his application shall be accepted, with the understanding that should he be selected for appointment he will be required to undergo a physical examination before an officer of the Marine-Hospital Service, and if found thereby to be physically disqualified he will be rejected for appointment. Applicants for hospital attendant will be graded on the elements of physical condition and experience, as shown in their applications and supplementary statements, Forms 304 and 394; applications for this position and information may be obtained from the medical officer at the hospital or station where employment is desired; applications, when complete, should be filed with the medical officer at the hospital or station where employment is desired.

(c) The position of interne is now unclassified, and appointment thereto is made without examination.

(d) All employees at marine hospitals and quarantine stations must be of the male sex and preferably unmarried, as no quarters are furnished for families. At Southern quarantine stations preference will be given to applicants who are shown to be immune to yellow fever.

(e) The employees of the Marine-Hospital Service are distributed throughout the United States, but most of them are employed at the following named places:

United States marine hospitals.—Baltimore, Md.; Boston, Mass.; Cairo, Ill.; Chicago, Ill.; Cincinnati, Ohio; Cleveland, Ohio; Delaware Breakwater, Del.; Detroit, Mich.; Evansville, Ind.; Key West, Fla.; Louisville, Ky.; Memphis, Tenn.; Mobile, Ala.; New Orleans, La.; New York, N. Y.; Philadelphia, Pa.; Portland, Me.; Port Townsend, Wash.; San Francisco, Cal.; St. Louis, Mo.; Vineyard Haven, Mass.; Wilmington, N. C.

Quarantine stations.—Brunswick, Ga.; Cape Charles (Fortress Monroe, Va.); Delaware Breakwater (Lewes, Del.); Gulf (Biloxi, Miss.); Port Townsend, Wash.; Reedy Island (via Port Penn, Del.); San Diego, Cal.; San Francisco (Angel Island, Cal.); South Atlantic (via Inverness, Ga.); Southport, N. C.; Tortugas (Key West, Fla.).

Sec. 150. Acting assistant surgeon, Marine-Hospital Service.—Age limit, 20 years or over. Application forms, 304 and 375. The subjects, time, and weights of the examination for acting assistant surgeon are the same as those for sanitary inspector. Applicants for this position must be competent physicians and surgeons, graduates of reputable medical colleges, and must furnish satisfactory certificates relative to their moral character and professional capacity. When a vacancy occurs, it is desirable to appoint to this position, whenever practicable, a regular practicing physician residing at the place where the vacancy exists. The salaries of classified acting assistant surgeons range from \$300 to \$1,800 per year. *This examination will be held only when specially announced, and no applications will be received until such announcement is made.* For subjects, weights, and specimen questions indicating the scope of the examination see section 153.

Sec. 151. Hospital-steward, Marine-Hospital Service.—Time allowed, two days of seven hours each. Application forms, 304 and 375. Applicants for this position must be graduates in pharmacy, and must have the medical certificate on the application blank, Form 304, executed by a medical officer of the Marine-Hospital Service. The Department does not desire to appoint persons to the position of steward who are not willing to move from place to place, as stewards are subject to change of station at any time. Unmarried men or men with small families are preferred. No applicant will be examined who is under 21 or over 30 years of age. The salaries of stewards range from \$600 to \$864 per annum in money, and subsistence, quarters, fuel, and light in addition; at a station where no quarters are furnished, stewards are entitled to commutation of quarters, and traveling expenses when traveling under orders. Provision has recently been made by which hospital stewards will receive the salaries indicated above, which are higher than those heretofore paid them. In the past the

number of eligibles obtained has not been sufficient to meet the demands of the service. The examination may be taken on the date and at the places marked D in the schedule, section 9.

Below will be found a list of the subjects and weights of the examination, followed by specimen practical questions indicating the scope of the examination. For specimen questions of second grade see section 63:

Subjects.	Weights.
1. Spelling (second grade)	5
2. Arithmetic (second grade)	5
3. Penmanship	5
4. Letter writing (second grade)	5
5. Elements of bookkeeping and accounts	5
6. Chemistry	20
7. Pharmacy	40
8. Materia medica	15
Total	100

KEEPING ACCOUNTS.

FIRST EXERCISE.

During the month of January, 1897, Frank Perkins had the following transactions with Smith, Kline & Co.: On January 1 Perkins owed Smith, Kline & Co. a balance of \$56.15. Perkins bought on account, on January 4, 2 ounces Spanish saffron, at \$13.50 per pound; January 6, one 25-pound keg niter, at 7½ cents per pound, less 8 per cent discount; January 7, 10 pounds Honduras sarsaparilla, at 38 cents per pound. On January 8 Perkins gave his note for \$50, due in thirty days, with interest at 6 per cent. Perkins bought on account, on January 9, 2 gallons North Carolina pine tar in half pints, at 65 cents per dozen half pints; January 12, 6 pounds citric acid, at 4½ cents per pound; January 20, 1½ gallons alcohol, at \$2.50 per gallon; January 21, 6 pounds powdered alum, at 7½ cents per pound; January 28, 34 ounces quinine, at 36 cents per ounce. On January 29 Perkins paid, on account, cash \$12.57. January 30 Perkins bought, on account, 6 ounces cloves, at 30 cents per pound. Make a statement of the account as rendered to Perkins by Smith, Kline & Co. February 1, 1897.

SECOND EXERCISE.

(1) Name the three principal books that are generally used in bookkeeping. (2) In personal accounts what is the significance of the terms debtor and creditor? (3) If the cash account does not balance, which side is always the larger? Why? (4) State in detail the method of closing an account. (5) If a personal account has a debit excess, what does this denote?

CHEMISTRY.

(1) Describe the metal mercury. State what are some of its important alloys, and give their composition. Give the formulae of the official salts of mercury. (2) State the tests to be relied upon for the detection of arsenic. Give a brief description of the methods of procedure in applying these tests. How would you prepare, by an official process, an antidote to arsenical poisoning? (3) Describe the metal aluminium. How is it prepared, and mention any improved processes lately applied? Give a brief description of the useful alloys into which this metal enters. (4) Give the chemical formulae of, and describe, magnesii sulphas and magnesii carbonas. State what are the points of difference between magnesii sulphas and magnesii ponderosa. Describe the preparation of magnesii citras effervescens. (5) What are the various natural sources of the sodium salts? Describe the ammonia soda process for the manufacture of sodium carbonate, stating the uses made of the by-products in the operation, and giving all formulae. (6) Contrast the qualitative tests of the ferrous and ferric salts. (7) Show by structural formulae the difference between the open and closed chain hydrocarbons. Name the class of compounds derived from each, mentioning, as an example, any one that may be official. (8) What is an alcohol; an ester; an ether? Name an official substance as an example of each, and give constitutional formulae. (9) What are the chemically distinctive features of alkaloids; of glucosides? Name two official drugs as examples of each. (10) What are the physical and chemical differences between essential oils and fixed oils; between camphors and resins?

PHARMACY.

(1) Give the unabbreviated official name and ingredients of collodion, fluid extract of licorice, purified ox gall, Donovan's solution, washed sulphur. (2) Give the English name and ingredients of acidum hydrocyanicum dilutum, aqua chlori, ferri carbonas saccharatus, spirita ammoniæ, massa hydrargyri. (3) Give the official names of the mineral acids. Which of them are required to "contain 10 per cent of absolute" acid? (4) What is the official designation of the substance usually known as antifebrin? To what class of compounds does it belong? What are its physical properties; its best solvents; its reactions? (5) What are the pharmacopœial requirements for opium? Describe the official process for the assay of opium. (6) Name the ingredients and the quantities necessary to add to 236 gm. of powdered licorice root to make 1,000 gm. of compound licorice powder. Give the method of preparation and the official title. (7) What drugs enter into the composition of compound tincture of benzoin? Give the botanical name, natural order, habitat, and portion used of the plant from which each is derived? (8) Give the official name, chemical formula, uses, and dose of each of the following substances, and state the official preparation into which each of them enters: Silver nitrate, rochelle salt, mercuric iodide, subnitrate of bismuth, and tannin. (9) Give full pharmacopœial directions for the manufacture of suppositories. What differences are prescribed for rectal, urethral, and vaginal suppositories? (10a) Criticise the two following prescriptions:

℞
 Quin. Sulph. gr. xxxii
 Tr. Ferri Chlor.
 Sp. Ammon. Aromat. aa iv
 Aquæ Font. q. s. ad. iiii
 Sig.: A teaspoonful 3 times daily.

℞
 Morphia Sulph. gr. iiii
 Potassa Brom. ii
 Aqua Cinnam. q. s. ad. iiii

MATERIA MEDICA.

(1) **Jalap:** Give the botanical name, natural order, and habitat of the plant. Describe the drug. What per cent of resin should it contain? State the behavior of this resin to simple solvents and to chemical solvents. How is it distinguished from the resins of false jalaps? Give the dose of jalap and of the resin. (2) **Flaxseed:** Name the plant and its natural order. Describe the drug, and explain its structural characteristics. Name its important medicinal constituents, and state the location of each in its tissues. (3) **What is lupulin?** Name the plant, and the part of the plant yielding it. Name its important constituents, and explain the change taking place on exposure. Give the medicinal properties of lupulin and its dose. (4) Name the plants belonging to the natural order *Papaveraceae* which yield official drugs. Give the part used, the most important constituent, the therapeutic uses of each constituent named, and the dose of each drug. (5) Give the botanical origin, natural order, part of plant used, active principle, medicinal properties, and dose of each of the following-named drugs: *Capsicum*, *aspidium*, *coca*, *ergota*, *colchicum*. (6) To what class of drugs does *cantharis* belong? What is its habitat? How is it collected? Describe the drug, naming its active principle. State the method for the valuation of *cantharis* and the amount of active principle which it should yield. What is its medicinal use and dose? (7) What is *musk*? Give the species, order, and habitat of the animal from which obtained. Describe the drug, and name the varieties to be met with. What are its constituents, its uses, and dose? (8) State the botanical origin, natural order, and habitat, and give a brief description of each of the following-named gum-resins: *An-moni-ac*, *myrrh*, *gamboge*, *assafoetida*, *scammony*. (9) From what part of the plant is *ginger* derived? What is the botanical origin and habitat of the plant? Give a brief description of the drug. What varieties are met with? To what is the hot taste of ginger due, and to what its aromatic odor? What are its medicinal uses? (10) What is the botanical origin of *cane sugar*? Describe its preparation. Give a brief description of physical and chemical properties, including its molecular composition. What is used to whiten imperfectly decolorized sugars, and how may this substance be detected?

Sec. 152. Marine engineer, Marine-Hospital Service.—Subjects, third-grade basis examination, and practical questions requiring a fair knowledge of steam engineering and the handling and care of boilers. In addition applicants will be marked on character as a workman and experience as an engineer as indicated by the answers on application form 394. These elements will be weighted 40 per cent of the entire examination. The time allowed for this examination is five hours. Application forms, 304 and 394. Age limit, 20 years or over. The examination may be taken on the date and at the places marked D in the schedule, sec. 9. Applicants for the position of engineer on quarantine duty must have a license from the United States local inspector of steam vessels or present other satisfactory evidence of capacity. They must be qualified to take charge of the engines of quarantine boats and naphtha launches, and must also understand the management of stationary engines and boilers. Applicants for the position of engineer at a marine hospital must furnish satisfactory evidence that they are competent machinists, be able to make repairs to gas and steam pipes, etc., and must also have some knowledge of electric lighting. Applicants for engineer are required to furnish a medical certificate similar to the one required for sanitary inspector (see sec. 153). The salaries of engineers range from \$480 to \$720 per year, in addition to subsistence. Below will be found a list of subjects and weights followed by specimen practical questions indicating the scope of the examination:

Subjects.	Weights.
1. Spelling	2
2. Arithmetic	2
3. Letter writing	2
4. Penmanship	2
5. Copying from plain copy	2
6. Practical questions	50
7. Character as a workman	20
8. Experience	20
Total	100

PRELIMINARY QUESTIONS.

1. What is your trade or occupation? 2. How long have you been engaged in such trade or occupation? 3. What qualifications or fitness do you possess, and what experience have you had, which fit you for the position for which you are being examined? 4. Have you an engineer's certificate? If so, when and where was it issued?

PRACTICAL QUESTIONS FOR ENGINEERS IN MARINE HOSPITALS.

1. Describe the three following types of boiler: (a) Return-water tubulous boiler, (b) fire-tube, or tubulous boiler, (c) locomotive boiler. 2. What extra precautions are necessary in the management of fire-tube boilers to prevent accident? 3. State some of the advantages and disadvantages of the fire-tube boilers. 4. Give some of the reasons for the thumping and pounding of a pair of compound engines. 5. Describe how you would set the steam slide valve of an engine. 6. What is steam lap, exhaust lap, compression? 7. Describe the hot-water system of heating for large buildings. 8. What is the direct and what is the indirect system of steam heating? 9. Describe any one of the types of electric elevators now in use. 10. Describe and sketch (a) a series wound dynamo, (b) a shunt wound dynamo, (c) a compound wound dynamo. 11. Sketch lamps arranged in (a) multiple arc, (b) series. 12. Describe the Edison three-wire system of electric lighting.

PRELIMINARY QUESTIONS.

1. What is your trade or occupation? 2. How long have you been engaged in such trade or occupation? 3. What qualifications or fitness do you possess, and what experience have you had which fit you for the position for which you are being examined? 4. Have you a marine engineer license? State when and where it was issued. What is your trade, and how long have you been employed at it?

PRACTICAL QUESTIONS FOR ENGINEERS ON QUARANTINE DUTY.

1. Describe the following types of boilers: (a) Marine return-water tubular, (b) locomotive, (c) fire-tube, or tubulous boiler. 2. What extra precautions are necessary in the management of fire-tube boilers to prevent accident? 3. State some of the advantages and disadvantages of fire-tube boilers. 4. What are the advantages of high steam pressure in the marine engine? 5. How would you proceed to find the cause of thumping and pounding in a set of compound engines? 6. Explain (a) wire drawing, (b) steam lead, (c) exhaust lap. 7. Describe the process of fitting a set of crank-pin brasses from the rough casting. 8. Explain the principles and construction of the naphtha launch engines as now used. 9. Explain, in detail, the process of starting a naphtha launch engine, including the filling of the tank. 10. In what respect are naphtha launch engines dangerous in the hands of an inexperienced or careless person?

Sec. 153. Sanitary inspectors, Marine-Hospital Service.—Age limit, 20 years or over. Application forms, 304 and 375. The time allowed for the examination will be two days of seven hours each. *This examination will be held only when specially announced, and no applications will be received until such announcement is made.* Applicants for the position of sanitary inspector must be competent physicians and surgeons, graduates of reputable medical colleges, and must furnish satisfactory certificates relative to their moral character and professional capacity. Those applying for service south of Baltimore on the Atlantic and Gulf coasts should preferably be immune to yellow fever, or at least acclimated. Each applicant will be required to have the medical certificate on the application blank filled out by a medical officer of the Marine-Hospital Service. The salaries of sanitary inspectors range from \$360 to \$2,500 per year. Below will be found a list of the subjects and weights, followed by practical questions indicating the scope of examination:

Subjects.	Weights.
1. Letter writing	1
2. Anatomy and physiology	3
3. Surgery and surgical pathology	4
4. Chemistry, materia medica, and therapeutics	2
5. Bacteriology and hygiene	2
6. Theory and practice of medicine and general pathology	5
7. Obstetrics and gynecology	3
Total	20

LETTER WRITING.

Write in the space below a letter of not less than 150 words, giving your views as to the best means to be adopted for establishing effective quarantine against the spread of contagious diseases. This exercise is designed chiefly to test the competitor's skill in simple English composition. In marking the letter, its errors in form and address, in spelling, capitalization, punctuation, syntax, and style, and its adherence to the subject, will be considered.

ANATOMY AND PHYSIOLOGY.

1. Name ten muscles attached to the base of the skull. State of each the origin, insertion, innervation, and function. 2. Name the structures cut through in an amputation of the thigh at the apex of Scarpa's triangle. 3. Describe the seventh or facial nerve, giving its deep and apparent origin, general course, distribution, and function. 4. Describe the portal circulation. 5. State of the brachial artery, its branches, relations, and collateral circulation. 6. What are the factors in the production of animal heat and the equalization of the body temperature? 7. What are the causes of the venous circulation? What are the influences of the peculiarities in the structure of veins upon, and what causes operate to impede, the venous circulation? 8. What is the effect of digestion upon the flow of bile? Describe the mechanism of the excretion of bile. 9. What is the composition of urea; from what is it formed in the body; what is the normal quantity excreted daily and what causes, normal and pathological, increase or diminish this amount? 10. Describe briefly the glands (excluding the liver) which empty into the alimentary tract, and state the function of the secretion of each.

SURGERY AND SURGICAL PATHOLOGY.

1. What are the symptoms of ruptured urethra, and how is it treated? 2. What are the symptoms of shock? How should shock be treated? 3. Describe the operation of lateral lithotomy. 4. Describe briefly the different varieties of aneurism, and state the diagnostic features by which aneurism is recognized. 5. What are the early symptoms of hip-joint disease? What symptoms indicate the further extension of the disease? 6. What are the characteristics of chancreoid? What complications arise in chancreoid, and what treatment is necessary in each case? 7. Describe Syme's operation. 8. How may syphilis be transmitted from parent to child, and what are the characteristics of congenital syphilis? 9. How should a chronic ulcer on the lower third of the leg be treated? 10. Describe a method for the radical cure of hernia.

CHEMISTRY, MATERIA MEDICA, AND THERAPEUTICS.

1. What comprise the group of alkali metals? What are the characteristics by which these metals resemble each other? 2. Define each of the following: Compound radical, binary molecule, basic salt, derived ammonia, ortho-acid. 3. State the official names and formulae of the halogen compounds of mercury. Which is the most important, and how is it prepared? 4. Describe the Leblanc process for the manufacture of sodium carbonate, giving the formulae and reactions. 5. What is a chemical reaction? What are the conditions favoring reactions? Illustrate by example how a reaction is expressed. 6. What are the symptoms and treatment of acute arsenical poisoning? Describe Marsh's test for the detection of arsenic. 7. What is the physiological action of chloral hydrate? What are its effects in toxic doses, and how should poisoning by its use be treated? 8. Define the following terms: Carminative, astringent, demulcent, styptic, rubefacient, emollient, sialogogue, protective, chologogue, and escharotic. Name a drug as an example of each. 9. What are diaphoretics and how do they act? State the purposes for which they are used and how they are classified. 10. What are the physiological effects of atropine? What symptoms denote toxic effects of this alkaloid, and how should they be met?

BACTERIOLOGY AND HYGIENE.

1. How is it proved that a given organism is the cause of a particular disease? 2. Describe a method for the examination of sputum for tubercle bacilli. 3. Explain the principles upon which immunity is conferred by attacks of certain diseases caused by micro-organisms. 4. Where are the characteristic organisms found in diphtheria, and to what are the systemic manifestations due? 5. What is the pathogenic factor in typhoid fever? By what means is the infection disseminated, and what particular hygienic precaution is to be observed in typhoid cases? 6. How is the presence of nitrogenous organic matters detected in a drinking water? What does such presence indicate? 7. Mention some of the methods used for the disinfection of a newly vacated sick room. 8. What are the causes which operate to produce the natural ventilation of a room? 9. What amount of air space should be allowed to each patient in a hospital ward? How much fresh air per hour should be admitted to a ward containing 75 patients? 10. Describe a method of artificial ventilation?

THEORY AND PRACTICE OF MEDICINE AND GENERAL PATHOLOGY.

1. What is meant by the malignancy of a tumor? Describe the histological features of one variety of malignant tumors. 2. What are the most common pathological conditions in mitral regurgitation? What is meant by broken compensation, and how is the prognosis affected by its occurrence? 3. What are the symptoms of rheumatic fever? With what diseases may the subacute form be mistaken? 4. How may the respiratory murmur be altered by disease? 5. In what diseases is hæmatemesis a prominent symptom, and how should it be treated? 6. What are the objects of percussion in physical diagnosis, and how is it accomplished? 7. What are the diagnostic points of acute myelitis? What symptoms indicate the involvement of trophic centers, and how does the prognosis vary with the location of the lesion? 8. State the signs and symptoms by which appendicitis may be differentiated from intestinal obstruction and biliary colic. 9. Describe the various stages of remittent fever. What is the duration of the disease, and upon what facts is the diagnosis based? 10. Give the diagnosis, complications, course, and termination of a typical case of diabetes mellitus.

OBSTETRICS AND GYNECOLOGY.

1. What are the functions of the placenta? 2. State the "positions" of a breech presentation. Which of these are the most frequent? 3. How is the nutrition of the fœtus sustained during the different periods of pregnancy? 4. Give the best method for inducing premature labor when it is designed to save the child's life. 5. Describe the mechanism of a left mento-anterior position. 6. What are the causes and symptoms of puerperal septicæmia? 7. What are the causes and symptoms of inversion of the uterus? 8. What symptoms may be anticipated from albuminuria in the early part of pregnancy? 9. What is peripheral venous thrombosis? To what is it due, and by what symptoms would it be recognized? 10. What is meant by "hourglass" contraction of the uterus? What is the usual cause and what is the necessary treatment?

LIFE-SAVING SERVICE.

Sec. 154. Application for examination must be made upon the blank form of application No. 395, which may be obtained from the superintendent of any life-saving district or the keeper of any life-saving station. An applicant must be a citizen of the United States; not under 18 nor over 45 years of age; not less than 5 feet 6 inches in height; not less than 135 nor more than 205 pounds in weight; must reside in the district in which he seeks employment and not more than 5 miles inland from the ocean, bay, or sound shore, or the shore of the Great Lakes (except applicants for the Louisville station at the Falls of the Ohio River), and must be able to read and write the English language, and must be a good swimmer.

No person shall be examined who has not had at least three years' experience as a surfman, sailor, or boatman; but if there are no eligibles in and for the section where the vacancy exists, and certification can not be made from any other section because there are insufficient eligibles to make a certification for the existing vacancy, applicants having had less than three years' experience or no experience at all may be examined.

No scholastic test is required, but applicants are graded upon the following elements: (1) Physical condition; (2) experience; (3) age. These elements shall be weighted as follows in the examination: Physical condition, 5; experience, 4; age, 1.

Applicants should write or apply in person to the superintendent or keeper of the nearest life-saving station for application blanks and information about the method of grading papers and filling vacancies.

LIGHT-HOUSE SERVICE.

Sec. 155. For the positions of master, mate, pilot, engineer, and assistant engineer in the Light-House Service applicants will be graded on age, character as a workman, experience, and physical qualifications. Age limit, 20 years or over. Application blanks (Forms 304 and 394) and other information can be obtained from the inspector of the light-house district in which employment is sought. The applications should be filed with the inspector, and should in no case be sent directly to the Commission.

Sec. 156. Keepers and assistant keepers of light-houses and light-ships, Light-House Service.—Applicants for these examinations will be given a fourth-grade or trades examination, with such practical questions as may be deemed necessary for any particular locality. Age limit, 20 years or over. Application form, 1025. Application blanks and information should be obtained from the inspector of the light-house district in which employment is sought; and after executing them they should be filed with the inspector, who is the local representative of the Commission. Such applications should in no case be sent directly to the Commission.

MINT AND ASSAY SERVICE.

Sec. 157 (a). Persons desiring employment in mints or assay offices should write for information and blank applications to the secretary of the civil service board of examiners at the mint or assay office in which they desire employment, and not to the Civil Service Commission at Washington.

(b) United States mints are located in the following cities:

Philadelphia, Pa.	San Francisco, Cal.	Denver, Colo., in process of construction.
Carson, Nev.	New Orleans, La.	

United States assay offices are located in the following cities:

New York, N. Y.	Helena, Mont.	Boise, Idaho.
St. Louis, Mo.	Charlotte, N. C.	Deadwood, S. D.
Denver, Colo.	Seattle, Wash.	

(c) No application for appointment to or employment in any mint or assay office shall be accepted from any person who can not furnish satisfactory evidence as to his character and integrity, and before any such person is selected for appointment or employment, further inquiry shall be made as to his character and integrity by the board of examiners, the superintendent, and the operating officer of the department in which such person is to be employed.

(d) For convenient reference the positions in the mint and assay service shall be arranged in the following schedules:

Classified positions excepted from competitive examination.....	Schedule A. (See c.)
Scientific positions	Schedule B.
Clerical positions.....	Schedule C.
Mechanical trades or other skilled positions.....	Schedule D.

Schedule E includes the positions of mere laborers or workmen which are not included in the classified service.

(e) At this time there are no excepted positions in the mint and assay service.

Sec. 158. Schedule B, scientific positions. Foreman in melting and refining department, refiner, assistant assayer, second assistant assayer, third assistant assayer, weighers in assayer's department, engravers, die makers, chemist, foreman of laboratory, foreman of deposit melting, assistant foreman in melting and refining department.

Age limits, 20 years or over. Application forms, 304 and 375. Time allowed, six hours.

Subject.	Weight.
1. Spelling (first grade).....	5
2. Arithmetic (first grade).....	5
3. Letter writing (first grade).....	10
4. Penmanship	5
5. Practical questions or tests relating to the specific duties of the position to be filled....	75
Total	100

Sec. 149. Schedule C, clerical positions: Abstract clerks, assayer's computation clerks, assistant bookkeepers, assistant curators, assistant inspectors, assistant weigh clerks, bank messengers, bookkeepers, cashiers' clerks, clerks, copyists, foreman of deposit melter's room, inspectors, medal clerks, pay clerks, registrar clerks, registrars of accounts, registrars of deposits, shipping clerks, statistical clerks, storekeepers, time clerks, warrant clerks, weigh clerks.

Age limit, 20 years or over. Application form, 304. Time allowed, five hours.

Subjects.	Weights.
1. Spelling (first grade).....	10
2. Arithmetic (first grade).....	25
3. Letter writing (first grade).....	25
4. Penmanship.....	15
5. Copying from plain copy (first grade).....	15
6. Elements of accounts (see elementary book-keeping and accounts, sec. 100).....	10
Total	100

Sec. 160. Schedule D, mechanical trades or other skilled positions: Adjusters, adjusters and reviewers, annealers, assistant custodians, assistant engineers, assistant inspectors, assistant weighers, assistant foreman of coining room, assistant foreman of melting and refining department, assistant foreman of rolling room, assistant forewoman of adjusters, assistants in acid room, blacksmiths, bullion samplers, carpenter, captain of watch, chief doorkeeper, classified laborers, classified workmen, cleaners, conductors, counters, cutters, deposit melter, employees in sweep cellar, engineers, fireman, foreman in acid room, foreman in assayer's department, foreman of carpenters, foreman of cleaners, foreman of coining room, foreman of deposit melter's room, foreman of laborers, foreman of rolling room, forewoman of adjusters, gas fitter, gate keepers, gold boilers, helpers in assayer's department, helpers in coiner's department, helpers in melter's and refiner's department, inspectors, janitors, laboratory helpers, machinists, melters and assistant melters of all kinds, messengers, millwrights, minor-coin counters, oiler, painter, plumber, provers, rollers, sewing women, silver reducers, skilled workmen in assayer's department, watchmen.

Age limit, 20 years or over. Application forms, 304 and 394. Time allowed, three hours.

These examinations may be taken at any time before the local board of examiners at the Mint or Assay Office in which the position is sought. The examination consists of two parts, part one comprising an educational test, and part two comprising a noneducational practical test, as follows:

PART 1.—EDUCATIONAL.

Subjects.	Weights.
1. Arithmetic, comprising the addition of whole numbers and decimals and the subtraction, multiplication, and division of whole numbers as used in simple problems and of United States money.....	40
2. Letter writing.....	30
3. Penmanship.....	10
4. Copying from plain copy.....	20
Total	100

PART 2.—NONEDUCATIONAL.

Subjects.	Weights.
1. Age.....	10
2. Character as a workman.....	40
3. Experience.....	40
4. Physical qualifications.....	10
Total	100

The ratings on part 2 of this examination, which are determined upon the statements and vouchers furnished in the application, will not be made nor considered if the applicant fails to attain a grade of 70 per cent on part 1 of the examination. In determining the general average of eligibles a weight of 30 per cent will be given to part 1 and a weight of 70 per cent to part 2. For a description of the method of rating the elements of part 2 see section 116.

REVENUE-CUTTER SERVICE.

Sec. 161. (a) Cadet examination, Revenue-Cutter Service.—Examinations for the position of cadet will be held only when a vacancy occurs, and no applications will be received until such an examination is announced.

(b) Under the regulations of the Treasury Department for the Revenue-Cutter Service applicants must be citizens of the United States, not less than 18 nor more than 25 years of age, of vigorous constitution, physically sound and well formed, not less than 5 feet 3 inches in height, of good moral character, and unmarried; and the marriage of a cadet will be considered as equivalent to his resignation.

(c) Application form 304 will be furnished by the Commission, the medical certificate on which must be executed by a regularly commissioned surgeon or assistant surgeon of the United States Marine-Hospital Service. If the applicant is shown to be physically or otherwise disqualified, his application for the educational examination will be rejected.

(d) The following is a list of the cities in which surgeons or assistant surgeons of the United States Marine-Hospital Service are located: Washington, D. C.; Mobile, Ala.; New York, N. Y.; Wilmington, N. C.; Detroit, Mich.; New Orleans, La.; Boston, Mass.; Cairo, Ill.; Baltimore, Md.; San Francisco, Cal.; Portland, Me.; Chicago, Ill.; Cincinnati, Ohio; Vineyard Haven, Mass.; Charleston, S. C.; Port Penn, Del.; Pittsburg, Pa.; Port Townsend, Wash.; Evansville, Ind.; Key West, Fla.; Louisville, Ky.; Fortress Monroe, Va.; Galveston, Tex.; Buffalo, N. Y.; Cleveland, Ohio; Philadelphia, Pa.; Savannah, Ga.; Portland, Oreg.; Biloxi, Miss.; Memphis, Tenn.; Southport, N. C.; Inverness, Ga.; St. Louis, Mo.; Lewes, Del.

(e) Few vacancies occur in the position of cadet, and of course in this examination, as well as in other examinations, the passing of the required grade does not guarantee a competitor's appointment, as the list of eligibles may not be exhausted in filling the vacancies occurring during his term of eligibility; but all persons possessing the preliminary requirements are invited to compete in the mental examinations, as it is desirable to have as wide a competition as possible.

Three days, of seven consecutive hours each, are allowed for this examination. The first five subjects will be given on the first day; the sixth, seventh, and eighth subjects on the second day, and the remaining subjects on the third day. When more than one language is taken, twenty minutes additional will be allowed for each additional language taken. The salary of a cadet in the Revenue-Cutter Service is \$500 per annum, and one ration per day.

While it is not a prerequisite to eligibility, all applicants for the position of cadet who have served at sea, or who have served as deck officers of seagoing vessels of the United States merchant marine, should file with their applications a certificate or certificates showing such service from the master of the merchant vessel with whom they have served or from shipmasters' association. It is proposed to give an applicant credit for such service when satisfactorily shown.

Subjects.	Weights.
1. Spelling.....	4
2. General geography.....	8
3. General history.....	8
4. Literature.....	4
5. Grammar, composition, and rhetoric.....	8
6. Arithmetic.....	12
7. Algebra.....	12
8. Geometry.....	12
9. Trigonometry and the elements of surveying.....	12
10. Physics.....	8
11. Chemistry.....	4
12. General information.....	4
13. Languages—German, French, Spanish—on this subject a maximum credit of 70 will be given for one, 90 for two, and 100 for three languages.....	4
Total.....	100

CUSTODIAN SERVICE.

Sec. 162. In cities in which there are Federal buildings, the positions of assistant custodian, engineer (steam) of the first class, assistant custodian-janitor, dynamo tender, elevator conductor, engineer (steam) of the second class and of the third class, fireman, janitor, watchman, wireman, and other similar positions for such public buildings pertain to the custodian service. Registers are made up for each city, and applicants in a city, or in the vicinity of a city, who pass the examination have their names entered upon a register of eligibles, and are certified for appointment to positions in the Federal building of that city when vacancies exist. Preference in certification to these positions will be given to legal residents of the place where the vacancy exists. Under the regulations of the Treasury Department, applicants for positions in the custodian service are required to be not less than 21 nor more than 60 years of age. Persons are physically disqualified for this service who have suffered the loss of an arm or a leg or who are ruptured or have other serious disability.

EXAMINATIONS CONTAINING EDUCATIONAL TESTS, CUSTODIAN SERVICE.

Sec. 163. Assistant Custodian.—Subjects, first-grade basis examination with a weight of 75, and experience with a weight of 25. The credit for experience will be based upon the knowledge and experience of the competitor in civil or mechanical engineering or construction work, or in the trade of carpenter, cabinetmaker, plumber, or steam fitter. Such knowledge and experience will be determined from the information shown in the blank forms 304 and 394, which must be executed and filed with the Commission. Time allowed, five hours. Age limit, 21 to 60. This examination may be taken on the dates and at the places marked A, B, or C in the schedule, section 9. For character of first-grade basis examination see section 62. Below will be found a table of the subjects and weights of this examination:

Subjects.	Weights.
1. Spelling.....	12.5
2. Arithmetic.....	12.5
3. Letter writing.....	12.5
4. Penmanship.....	12.5
5. Copying from plain copy.....	12.5
6. Copying from rough draft.....	12.5
7. Experience.....	25
Total.....	100

Sec. 164. Engineer (steam), First-class.—For places of great responsibility requiring long experience and a thorough knowledge of machinery, with a first-class engineer's license, appointments will be made from the first-class engineer examination. The subjects of this examination are the first-grade basis (see section 62), practical questions relating to the special duties to be performed, ability and character as a workman, and experience. Time allowed, seven hours. Application forms, 304 and 394. Age limit, 21 to 60. This examination may be taken on the dates and at the places marked D in the schedule, section 9. Below will be found a list of the subjects and weights of the examination, followed by specimen practical questions, indicating the scope of the examination:

Subjects.	Weights.
1. Spelling.....	5
2. Arithmetic.....	5
3. Letter writing.....	5
4. Penmanship.....	5
5. Copying from plain copy.....	5
6. Copying from rough draft.....	5
7. Practical questions.....	50
8. Character as a workman.....	10
9. Experience.....	10
Total.....	100

PRELIMINARY QUESTIONS.

1. What is your trade or occupation? 2. How long have you been engaged in such trade or occupation? 3. What qualifications or fitness do you possess, and what experience have you had, which fit you for the position for which you are being examined? 4. Have you an engineer's certificate? If so, when and where was it issued?

PRACTICAL QUESTIONS.

1. What are the three principal types of freight and passenger elevators now in use in large buildings? 2. Describe the principles and peculiarities of any make of the two following types of elevators: (a) Hydraulic, (b) electric. 3. Describe the construction of (a) the arc lamp, and (b) the incandescent lamp. 4. Which class of lights is the most efficient as regards economy, the arc or the incandescent light? 5. What is the meaning of the term "constant potential," as applied to the electric current? 6. What kinds of light are mostly used on constant potential currents? 7. Make a sketch showing lamps arranged in series and lamps arranged in multiple arc. 8. What is the Edison three-wire system, and what are its advantages? 9. Sketch and describe (a) a series-wound dynamo; (b) shunt-wound dynamo; (c) compound-wound dynamo. 10. What are the advantages of multiple expansion steam engines? 11. Make a sketch of a slide steam valve and a piston steam valve, and give the advantages of each for high steam pressures. 12. What are the causes and effects of wire drawing? 13. Sketch a good indicator diagram from a condensing engine cutting off at two-thirds stroke, and indicate on the sketch the technical name of each line. 14. Sketch and describe the following three types of boilers: (a) Fire tube or tubular; (b) marine return water tube; (c) outside furnace, built in. 15. Describe the advantages and disadvantages of fire-tube boilers, and state which type, in your opinion, is best adapted for a large building for all purposes. 16. Describe the hot-water heating system as fitted in large buildings. 17. Describe what you consider the most efficient system of heating a large public building. 18. Describe the best method of installing a steam-heating plant in a large building, taking steam from a set of fire-tube boilers. Diagrams may be used to illustrate answers.

EXAMINATIONS CONTAINING NO EDUCATIONAL TEST, CUSTODIAN SERVICE.

Sec. 165. Assistant Custodian-Janitor; Dynamo Tender; Elevator Conductor; Engineer, Second-class; Engineer, Third-class; Fireman; Janitor; Watchman; Wireman; and Other Similar Positions.—The educational tests which heretofore have been part of these examinations have been eliminated, and the examinations now consist solely of non-educational tests. The elements and relative weights in the examinations are: Physical ability as determined by age and physical condition, weight 2; ability and character as a workman, weight 4; experience, weight 4. The ratings on these elements will be based on the information furnished by the applicant on blank form 1052, which must be executed and filed with the Commission. The method of rating will conform as nearly as applicable to that described in section 116, for the trades examinations. Age limit, 21 to 60.

Persons are considered physically disqualified for any of these examinations who have suffered the loss of an arm or a leg or who are ruptured or have other serious disability. Any person possessing the necessary qualifications and desiring to compete in any of these noneducational examinations should apply at any time for information and application blank to the secretary of the local board for the custodian service at the public building where employment is desired or directly to the Commission, and should file his application, when executed, with the Commission at Washington, D. C.

GENERAL LAND OFFICE SERVICE.

Sec. 166. This service includes various positions in general land offices throughout the United States. Applicants for appointment to these positions in Arizona and New Mexico must have some knowledge of Spanish. Writing and drawing paper will be furnished, but applicants will be required to provide themselves with writing and drawing inks, pens, scales, squares, and drawing boards for use during the examination.

The Department desires that residents of the States where the service is to be performed should be given preference in certification for appointment, and the Commission will comply with such request. Land offices are located in the following named States and Territories: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Idaho, Iowa, Kansas, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Utah, Washington, Wisconsin, Wyoming.

Four different kinds of examinations are given for positions in this service, as follows:

Sec. 167. Clerk, Qualified as Stenographer and Typewriter.—The subjects of arithmetic and letter writing will be the first grade. For specimen questions see section 62. The tests in stenography and typewriting are identical with those described under sections 107, 108, and 114. No specimen questions in the subject of elements of

bookkeeping and accounts can be furnished at this time, but the tests will be somewhat similar in character to those given under shipping commissioner, departmental service, section 100. Age limit, 20 years or over. Application form, 304. Time allowed, eight consecutive hours. This examination will be given on the dates and at the places marked A and C in the schedule, section 9.

Subjects.	Weights.
1. Arithmetic	5
2. Penmanship	5
3. Letter writing	10
4. Elements of bookkeeping and accounts	5
5. Stenography	40
6. Typewriting technical subjects, including copying from rough draft	35
Total	100

Sec. 168. Register and Receiver's Clerk.—Subjects, first-grade basis, public land laws of the United States, and system of public land surveying. For specimen questions of first-grade basis, see section 62. No specimen questions under the seventh and eighth subjects can be furnished at this time. Age limit, 20 years or over. Application form, 304. Time allowed, two days of five hours each; first six subjects on the first day, and remaining subjects on the second day. This examination may be taken on the date and at the places marked D in the schedule, section 9.

Subjects.	Weights.
1. Spelling	10
2. Arithmetic	15
3. Letter writing	15
4. Penmanship	15
5. Copying from plain copy	5
6. Copying from rough draft	5
7. Public land laws of the United States	25
8. System of public land surveying	10
Total	100

Sec. 169. Surveyor-General's Clerk.—Subjects, first-grade basis, public land law, and public land surveying. For specimen questions of first-grade basis, see section 62. No specimen questions under the seventh and eighth subjects can be furnished at this time. Age limit, 20 years or over. Application form, 304. Time allowed, two days; five hours on the first day for the first six subjects, and six hours on the second day for remaining subjects. This examination may be taken on the date and at the places marked D in the schedule, section 9.

Subjects.	Weights.
1. Spelling	5
2. Arithmetic	15
3. Letter writing	10
4. Penmanship	10
5. Copying from plain copy	5
6. Copying from rough draft	5
7. Public land law	15
8. Public land surveying	35
Total	100

Sec. 170. Topographic Draftsman.—This examination is identical with that for topographic draftsman, Departmental Service (see sec. 113), and may be taken on the date and at the places marked D in the schedule, section 9. Applicants for this position should apply for "Topographic Draftsman, General Land Office Service." Age limit, 20 years or over. Application forms, 304 and 375. Time allowed, two days; first day, seven hours, the first four subjects will be given, and on the second day of eight hours the subject topographic drawing will be given.

SUBTREASURY SERVICE.

Sec. 171. Examinations for positions in the Subtreasury Service will be held only when the needs of the service require that eligible registers be established. Such examinations will be duly announced through the newspapers, and applications for positions in this service will not be accepted until such examinations are announced.—Positions in the Subtreasury Service are divided into Schedules A, B, and C. The schedules are as follows:

Schedule A, fiduciary positions.—The officers, chiefs of divisions, tellers, assistant tellers, and other employees in the several monetary divisions, embracing those engaged in the handling of money, bonds, coupons, checks, and other representatives of money.

Schedule B, clerical positions.—Chiefs of divisions, bookkeepers, and other employees engaged upon merely clerical work.

Schedule C, miscellaneous positions.—Employees having the care and custody of the building, including the superintendent of the building, detectives, messengers, hall men, engineers, watchmen, janitors, and classified laborers.

Examinations for vacancies in schedule A will comprise the first grade spelling, arithmetic, letter writing, penmanship, copying from plain copy and copying from rough draft, and such other subjects pertaining to the duties of the position to be filled as the Assistant Treasurer may determine. Applicants for examination in this schedule must have had not less than three years of experience in similar duties.

Examinations for vacancies in Schedule B will comprise the first grade spelling, arithmetic, penmanship, copying from plain copy, and copying from rough draft, and the elements of bookkeeping.

Examinations for vacancies in Schedule C will comprise the third grade spelling, arithmetic, letter writing, penmanship, and copying from plain copy, and such practical questions pertaining to the duties of the position to be filled as the assistant treasurer may determine.

Rigid tests of character and integrity will be applied to all applicants by the local subtreasury civil-service boards, and only those satisfactorily meeting such tests will be eligible. The tests shall consist of confidential inquiries to former employers and others, and such other means as may be found practicable and satisfactory to the several assistant treasurers and the Civil Service Commission.

In addition to the subjects above enumerated, experience in similar duty will be considered an element in examinations for Schedules A and B, the mark on experience to have a weight of 3 and the other subjects a weight of 7 in determining the general average of the competitor. The subject of experience shall be graded as follows:

Less than three years' experience, excluded from examination.

For three years' experience, a credit of 70 per cent.

For four years' experience, a credit of 75 per cent.

For five years' experience, a credit of 80 per cent.

For six years' experience, a credit of 85 per cent.

For seven years' experience, a credit of 90 per cent.

For eight years' experience, a credit of 95 per cent.

For nine years' experience, a credit of 98 per cent.

For ten years' or more experience, a credit of 100 per cent.

ENGINEER DEPARTMENT SERVICE.

Sec. 172. Positions under the Engineer Department are classified under two headings, those requiring an educational test and those requiring no educational test. Applications for the former class of positions should be filed with the commission at Washington, D. C., and for the latter class of positions they should be filed with the local board of examiners for the Engineer Department located in the various engineer districts. For list of cities in which boards are located see section 176. The information furnished below will indicate to which class each position belongs.

(a) *The positions requiring an educational test are—*

Assistant engineers, superintendents, junior civil engineers, which includes inspectors, subinspectors, overseers, suboverseers, surveyors, transit men, level men, sextant observers, computers, rodmen, and recorders; clerks, including stenographers, typewriters, copyists, receivers of material, timekeepers, recorders of vessels, coal weighers, and storekeepers; draftsmen.

The examinations for assistant engineer and superintendent will be held only when vacancies occur.

In the case of rodmen, recorders, inspectors, overseers, and others of equal or higher grade, selected from the eligible lists prepared by local boards, a diploma showing graduation in an engineering course from approved technical schools will be considered

as equivalent to a junior engineer examination, and will make the holder eligible to promotion without examination to any junior engineer position after a year's probation, if services have been satisfactory and capability shown.

(b) *The positions requiring no educational tests are—*

Inspectors, subinspectors, overseers, suboverseers, whose pay does not exceed \$100 per month.

Deputy inspectors and masters, deputy inspectors and pilots, deputy inspectors and mates, masters, pilots, mates, engineers of steam vessels, and other similar positions which in private employ require a license from the office of steamboat inspection, when the applicant is licensed.

All the mechanical trades: Master workmen, master laborers, bakers, blasters, boarding masters, boatmen, steersmen, cement finishers, cement testers, cement workers, chainmen, concrete finishers, cranesmen, divers, dredge runners, dredge engineers, elevator conductors, gardeners, gauge readers, leadsmen, lock masters and assistant lock masters, lock and bridge tenders, weavers, weavers of mats, motormen (including all steam engineers not licensed engineers), pile drivers, powdermen, riggers, rodsmen and recorders at \$75 per month or less, stewards, strikers, telegraph and telephone linemen, blacksmiths' helpers, calkers' helpers, carpenters' helpers, machinists' helpers, watchmen (including custodians), valve tenders, gauge readers, dam tenders, barge tenders, trackmen, fort keepers, torpedo-station keepers, light keepers, porters, messengers, janitors, and similar positions not specified herein.

Sec. 173. Clerical positions, Engineer Service, including stenographer, typewriter, etc.— Vacancies in these positions will be filled by certification from register of eligibles for the Departmental Service, and those who wish information in regard to such examination should refer to the Departmental Service (secs. 73, 107, 108, and 114).

Draftsmen are selected from the junior civil engineer register of eligibles, or from the special registers of the commission.

Sec. 174. Junior civil engineer, Engineer Department Service.—Age limit, 20 years or over; application forms, 304 and 375; time allowed, two days of seven hours each. Subjects 1 and 2 will be given on the first day, and subjects 3 and 4 on the second day. The time spent on subject 5 will not be reckoned as a part of the time allowed on the second day. In the event the special sheet in electrical engineering is taken, four hours will be allowed on the third day for this sheet.

Entrance salary, \$720 to \$1,500. This examination may be taken on the date and at the places marked D in the schedule, Section 9.

As far as practicable, all positions in the Departmental Service for which general civil engineering knowledge and experience are suitable will be filled from the junior civil engineer register.

Subjects.	Weights.
1. Pure and applied mathematics	15
2. Drawing	15
3. Use and care of field and office instruments ..	15
4. Practical questions in civil engineering	30
5. Technical education and experience	25
Total	100

Electrical Engineering.—In addition to the general examination for junior civil engineer, competitors who so desire may be examined in electrical engineering. The test will consist of one sheet of practical questions, for which four hours' time will be allowed. This test will be supplementary to and independent of the general examination. Eligibility on the general examination, however, will be required as a prerequisite to eligibility on the electrical engineering register.

The following explanatory notes will indicate the scope of the subjects of this examination:

Subject 1 covers arithmetic, simple problems in plane geometry, algebra, including quadratics, logarithms, trigonometry, and mechanics.

Subject 2 will consist of an exercise in drawing to scale and one in simple construction, the competitor to select one exercise. The exercises are designed to test the competitor's ability as a draftsman, as well as to test his technical knowledge. Competitors must furnish themselves with a drawing board not less than 15 inches square, a T square and triangle, or two triangles, a protractor, one scale 1 inch to 50 feet and one $\frac{1}{2}$ -inch to the foot, ink, and pencil. Drawing paper will be furnished by the Commission.

Subject 3 covers the engineer's transit as such and also as an instrument in stadia work, the engineer's level, the sextant, the current meter, the planimeter, and other instruments. Four to six questions will be given.

Subject 4 consists of ten questions covering construction and materials, of which competitors will be required to answer from six to eight. These questions will be elementary and general in character, designed to test the competitor's fitness for any junior civil engineer position in the classified service.

Subject 5 covers (a) technical education; (b) practical knowledge of mechanical trades; (c) practical experience as a surveyor or civil engineer, or any position relative to such work; (d) age and present occupation.

Preference in certification will be given to legal residents of the district in which the vacancy occurs. If there are no eligibles in a district when a vacancy or vacancies occur, eligibles in adjoining districts are certified for those positions.

No specimen questions can be furnished at this time.

Sec. 175. Trades examinations, including all noneducational positions, Engineer Department Service.—For the positions named in (b) sec. 172 in the Engineer Department at large no educational test is required, but applicants are graded upon the elements of age, experience, and intelligence, character as a workman, and physical ability. Applicants for these positions should not request blanks or information from the commission at Washington, but should address all communications to the secretary of the local board of United States civil-service examiners at the headquarters of the engineer district in which employment is desired. (See list of headquarters in sec. 176.)

Sec. 176. Persons desiring further and more specific information in regard to any of the positions in the noneducational class named above should make oral or written request upon the local board of examiners at the headquarters of the district in which employment is desired for an application blank and other information. Requests for such information should be addressed as follows: "U. S. Civil Service Examiners, Engineer Department at Large, U. S. Engineer Office, _____, _____."
(City.) (State.)

Below will be found a list of the cities in which local boards for the Engineer Department at Large are located:

Baltimore, Md.	Grand Rapids, Mich.	Newport, R. I.	St. Paul, Minn.
Boston, Mass.	Little Rock, Ark.	New York, N. Y.	St. Louis, Mo.
Buffalo, N. Y.	Louisville, Ky.	Norfolk, Va.	San Francisco, Cal.
Charleston, S. C.	Memphis, Tenn.	Oswego, N. Y.	Savannah, Ga.
Chattanooga, Tenn.	Milwaukee, Wis.	Philadelphia, Pa.	Seattle, Wash.
Chicago, Ill.	Mobile, Ala.	Pittsburg, Pa.	Sioux City, Iowa.
Cleveland, Ohio.	Montgomery, Ala.	Portland, Me.	Vicksburg, Miss.
Cincinnati, Ohio.	Nashville, Tenn.	Portland, Oreg.	Washington, D. C.
Detroit, Mich.	New London, Conn.	Rock Island, Ill.	Wilmington, Del.
Duluth, Minn.	New Orleans, La.	St. Augustine, Fla.	Wilmington, N. C.
Galveston, Tex.			

Sec. 177. Unclassified positions in the Engineer Service.—The following-named positions in the Engineer Department at Large are not included in the classified service, and appointments to them will be made without examination:

Unskilled laborers, cooks, and persons employed in the following grades at a monthly rate of \$45 or less:

Fireman's helper, waiter, teamster, deck hand, laundress, charwoman, boatman, drill man, stevedore, dredge hand, axman, carter, scowman, cement mixer, stoker, spudman, derrick hand, driver, winchman, oiler, floor man, lineman, sailor, lamp-lighter, cook's helper, hostler, assistant laundress.

ORDNANCE DEPARTMENT SERVICE.

Sec. 178. Positions in the Ordnance Department at Large are divided into schedules A, B, C, D, E, F, and G. When positions in schedules A and C can not be filled by transfer or promotion, it is probable that it will be necessary to hold special examinations to establish registers. Such examinations will not be held, however, until vacancies exist, and they will then be announced in the usual way through the newspapers. Positions in Schedule B will be filled by certification from the appropriate registers of the Departmental Service or from special examinations. No special registers for these positions in the Ordnance Department will be established. Vacancies in positions in schedules D, E, F, and G will be filled by certification from the fourth grade, or trade register of eligibles. Application blanks, Forms 304 and 394, may be obtained for these positions by writing to the secretary of the board of examiners, at the ordnance establishment at which employment is sought. A list of the cities in which there are ordnance offices will be found below. The applications for the trade examination should be filed with the local board of examiners in the several cities where employment is desired, but all other applications should be filed with the Commission at Washington, D. C.

The following is a list of the cities in which there are ordnance offices: Benicia, Cal., arsenal; Frankford, Pa., arsenal; New York, N. Y., arsenal; Rock Island, Ill., arsenal; San Antonio, Tex., arsenal; Sandy Hook, N. J., proving ground; Springfield, Mass., armory; Watertown, Mass., arsenal; Watervliet, N. Y., arsenal.

Sec. 179. Fourth-grade or trade examination.—Application forms, 304 and 394. In this examination no educational test is required, but applicants are graded on age, character as a workman, experience, and physical qualifications. The information on which the marks are based must be furnished by the applicant on the blank which will be sent to him for that purpose. Applicants are required to file their applications on the application blanks, Form 304; and in addition to this they are required to furnish a statement in reference to the trade or occupation for which they wish to be examined, together with certificates from persons for whom or with whom they have worked. Care should be taken to furnish accurate and complete information, in order that a sufficient basis may be had for grading the papers. Applications may be filed at any time, and the names of eligibles may be entered upon the registers on the first day of the month following the date of filing the application. Where it is desirable, a general intelligence test, or practical questions will be given in addition to Form 394.

For a statement of the method by which the papers for this character of examination will be graded see sec. 116.

Sec. 180. Schedules of positions in the Ordnance Service are as follows:

Schedule A, technical places.—Assistant to inspector of ordnance, chief engineer, draftsman, constructing engineer, engineer operating testing machine, civil engineer, resident engineer, chemist, chief inspector, resident inspector at shops.

Schedule B, clerical places.—Clerks, stenographers, clerk and telegraph operator, clerk and typewriter operators, typewriters, clerk and timekeepers, copyists.

Schedule C, special mechanics.—Mechanical engineer, master mechanic, master workman, master machinist, master carriage maker, master carpenter, master painter, instrument maker, assistant to engineer at testing machine.

Schedule D, mechanics.—(Application forms, 304 and 394.) Steam engineer and machinist, locomotive engineer, engineman, fireman, machinist, pattern maker, blacksmith, painter, tool maker, screw maker, file cutter, case hardener, temperer, engraver, die sinker, filer, vitioler, polisher, rigger, piper, case maker, tinsmith, plumber, saddler, wheelwright, hammersman, boiler tender, steam engineer, engineer (not civil or mechanical), assistant steam engineer, electrician, mechanic, carpenter, smith, printer, mason, gauge maker, cutter, browner, bluer, harness maker, tool grinder, wheelman, steam and gas fitter, melter, millwright, molder, tinner, weigher, farrier, bolt maker, heater, rotary filer.

Schedule E, foremen and inspectors.—(Application forms, 304 and 394.) Foreman, assistant foreman, inspector, assistant in experimental firing, assistant inspector.

Schedule F, skilled laborers.—(Application Forms 304 and 394.) Assistant machinist, assistant smith, forage master, assistant millwright, assistant piper, steam-hammer driver, skilled laborer.

Schedule G, messengers and watchmen.—(Application forms, 304 and 394.) Messenger, guard, watchman.

NAVY-YARD SERVICE.

Sec. 181. Vacancies in the position of clerk, stenographer, typewriter, pressman, compositor, watchman and messenger, special laborer, and draftsman will be filled by certification from existing registers for the Departmental or Government Printing Services when not filled by transfer or promotion. Persons who desire to become eligible to such positions should apply for the appropriate examination in the Departmental or Government Printing services. No special examinations for such positions as those named will be held unless technical knowledge is required, and in such cases special examinations will be announced through the newspapers. Vacancies in positions embraced in Schedules A and B will be filled by certification from registers maintained at the several navy-yards, in accordance with regulations governing appointments to such positions. Persons desiring to become eligible to such positions should request application blanks and information from the secretary of the board of labor employment at the navy-yard at which they desire employment. Below will be found a list of positions covered by Schedules A and B:

SCHEDULE A.

Boys; boiler scalers; dredgers; helpers, general; helpers, blacksmiths'; helpers, boat-builders'; helpers, joiners'; helpers, machinists'; helpers, molders'; helpers, painters'; helpers, plumbers'; helpers, sawmill; helpers, ship fitters'; helpers, shipwrights'; helpers, tinner's'; helpers, boiler makers'; helpers, brass-finishers'; helpers, carpenters' (house); helpers, copper-smiths'; helpers, galvanizers'; helpers, iron finishers'; hod carriers; holders on; janitors; laborers (common); rivet heaters; stable keepers; teamsters.

SCHEDULE B.

Anchor makers; blacksmiths; block makers; boat builders; boiler makers; box makers; cabinet-makers; calkers, wood; calkers and chippers, iron; carpenters (house); cartridge makers; catchers; chain makers; coffee roasters; compass fitters; coopers; copper refiners; copper-smiths; core makers; divers; draftsmen; drillers; drivers for fire engine; engine tenders, fire; engine tenders, locomotive; engine tenders, stationary; fasteners; finishers, brass; finishers, iron; firemen; flag makers; flange turners; forgers, heavy; furnace men; galvanizers; gas fitters; gas makers; hammer men; harness makers; hostlers; horse-shoers; instrument makers; joiners (house); joiners (ship); laboratorians; leather workers; letters and grainers; machinists; machinists, electrical; masons, brick; masons, stone; mill men; model makers; molders, green-sand (iron or brass); molders, loam; oakum spinners; oakum makers; ordnance men; packers; painters; pattern makers; pavers; pile drivers; pipefitters; plasterers; plumbers (house); plumbers (ship); pressmen; printers; punchers and shearers; reamers; riggers; riveters; rollers, iron; rope makers; sailmakers; saw filers; sawyers; seamstresses; ship-fitters; shipwrights; slaters; spar makers; stonecutters; tanners; tin roofers; tool makers; tool sharpeners; turners; upholsterers; wharf builders; wheelwrights; wiremen.

CUSTOM-HOUSE BRANCH.

Sec. 162. Examinations for the classified Custom-House Service will be held for all positions above the grade of unclassified laborer. Applicants are examined as to their relative capacity and fitness. There are three grades of general examinations, namely:

First grade. (Time allowed, including geography, 5½ hours.)		Second grade. (Time allowed, 4 hours.)		Third grade. (Time allowed, 3 hours.)	
Subjects.	Relative weights.	Subjects.	Relative weights.	Subjects.	Relative weights.
1. Spelling	10	1. Spelling	20	1. Spelling	20
2. Arithmetic	25	2. Arithmetic	20	2. Arithmetic	20
3. Letter writing	15	3. Letter writing	20	3. Letter writing	20
4. Penmanship	15	4. Penmanship	20	4. Penmanship	20
5. Copying from plain copy ..	10	5. Copying from plain copy ..	20	5. Copying from plain copy ..	20
6. Copying from rough draft ..	10				
7. Geography	15				
Total	100	Total	100	Total	100

The first-grade examination will be given to applicants for the positions of deputy officer, clerk (male and female), day inspector, and sampler.

The second-grade examination will be given to applicants for the positions of assistant weigher, and messenger.

The third-grade examination will be given to applicants for the positions of watchman, night inspector, opener and packer, inspectress, foreman, janitor, attendant, porter, and classified laborer. Applicants for the grade of boatman will be rated on age, experience, and intelligence, character as a workman, and physical condition (as shown in sec. 116), except in positions in which educational qualifications are desired. In such cases the third-grade examination will be given in addition to the elements named.

Specimen questions may be found in Form 117, which may be obtained from the local examining boards.

Due notice of the time and of the place of examination will be given to each applicant, and those who receive such notice should appear for examination at least fifteen minutes before the hour set for the commencement of the examination, and they should provide themselves with pen, penholder, pencil, eraser, ink, and blank paper. Regular examinations are held at the headquarters in each classified customs district in the spring and fall of each year, and applications for these examinations must be filed with the secretary of the board of examiners at the place where the examination is to be held at least twenty days before the examination. All unused applications are canceled after they have been on file six months. The details incident to the preparation for an examination require that a date be set on which the receipt of applications for a particular examination shall cease. Applicants should, therefore, inquire of the secretary of the local board of examiners when the receipt of applications will close for any examination in which they wish to compete, in order that their applications may be filed in due time. *Failure to file application by the time specified will prevent an applicant from being examined.*

Persons desiring to apply for positions in any classified custom-house should write for an application blank and information to the secretary of the local board of examiners at the custom-house in which they desire employment, and not to the commission at Washington. The minimum age limitation for positions in classified customs districts is 20

years; there is no maximum limitation. A list of the cities in which customs examinations are held at regular intervals is given below. For those districts not named in this list examinations will be held only when vacancies occur:

Mobile, Ala.; Sitka, Alaska; Nogales, Ariz.; Los Angeles, San Diego, San Francisco, Cal.; Denver, Colo.; Bridgeport, Hartford, New Haven, New London, Conn.; Wilmington, Del.; Washington, D. C.; Cedar Keys, Jacksonville, Key West, Pensacola, Tampa, Fla.; Brunswick, Savannah, Ga.; Chicago, Ill.; Indianapolis, Ind.; Louisville, Ky.; New Orleans, La.; Bangor, Bath, Belfast, Castine, Eastport, Ellsworth, Houlton, Machias, Portland, Waldoboro (mail for this board should be addressed to "Rockland, Me."); Baltimore, Md.; Barnstable, Boston, Gloucester, New Bedford, Salem, Mass.; Detroit, Grand Haven, Marquette, Sault Ste. Marie, Port Huron, Mich.; Duluth, St. Paul, Minn.; Shieldsboro (via Bay St. Louis post-office), Miss.; Kansas City, St. Louis, Mo.; Great Falls, Mont.; Portsmouth, N. H.; Bridgeton, Newark, Perth Amboy, N. J.; Albany, Buffalo, Cape Vincent, New York, Ogdensburg, Oswego, Plattsburg, Rochester, Suspension Bridge, N. Y.; Newbern, Wilmington, N. C.; Pembina, N. Dak.; Cincinnati, Cleveland, Sandusky, Toledo, Ohio; Astoria, Portland, Oreg.; Philadelphia, Pittsburg, Pa.; Providence, R. I.; Charleston, Beaufort, S. C.; Memphis, Tenn.; Brownsville, Corpus Christi, Laredo, Eagle Pass, El Paso, Galveston, Tex.; Burlington, Vt.; Newport News, Norfolk, Petersburg, Richmond, Va.; Port Townsend, Wash.; Milwaukee, Wis.

There will be but one examination in stenography and typewriting for all branches of the service, whether at Washington or elsewhere. Whenever a vacancy occurs in any branch of the service other than departmental—for instance, in a custom-house, post-office, etc.—a list of eligibles will be prepared containing the names of those who were examined in the particular customs district, post-office district, etc., as the case may be, where the vacancy exists, and who have expressed a willingness to accept a position in that service, preference being given to legal residents of the district. Persons desiring to be examined for this position should obtain application blanks from the Commission at Washington, and should state in their applications the particular branch or branches of service in which they are willing to accept appointment. Applications for this position should be filed with the Commission at Washington and not with the local board.

POST-OFFICE BRANCH.

Sec. 183. *Persons desiring employment in classified post-offices should write to the secretary of the board of examiners at the post-office in which they wish employment, and not to the commission, for an application blank and information.* All free-delivery post-offices are classified. There is but one examination for positions in classified post-offices, namely, the clerk-carrier examination. Applicants are required to indicate whether they wish employment as clerks or carriers. The age limitations for carriers are 21 to 40 years; for clerks and all other positions the minimum age limitation is 18 years; there is no maximum age limitation for these positions.

Below will be found a table of the subjects and weights of the examination. Specimen questions may be found in form 117, which may be obtained from the local examining boards, as explained above.

Sec. 184. *Clerk-carrier examination.*—Time allowed, four and one-half hours. Subjects and weights of the examination are as follows:

Subjects.	Weights.
1. Spelling.....	10
2. Arithmetic.....	10
3. Letter writing.....	10
4. Penmanship.....	10
5. Copying from plain copy.....	10
6. Geography of the United States.....	25
7. Reading addresses.....	25
Total.....	100

Due notice of the time and of the place of examination will be given to each applicant, and those who receive such notice should appear for examination at least fifteen minutes before the hour set for the commencement of the examination, and they should provide themselves with pen, penholder, pencil, eraser, ink, and blank

paper. Regular semiannual examinations will be held in each post-office in the spring and fall, and applications for these examinations must be filed with the secretary of the board of examiners at least twenty days before the examination. All unused applications are canceled after they have been on file six months. The details incident to the preparation for an examination require that a date be set on which the receipt of applications for a particular examination shall cease. Applicants should, therefore, inquire of the secretary of the local board of examiners when the receipt of applications will close for any examination in which they wish to compete, in order that their applications may be filed in due time. *Failure to file application by the time specified will prevent an applicant from being examined.*

It is the practice of the Post-Office Department in making initial appointments at newly classified post-offices to appoint only those eligibles who are residents of the city or vicinity in which such post-office is located.

There will be but one examination in stenography and typewriting for all branches of the service, whether at Washington or elsewhere. Whenever a vacancy occurs in any branch of the service other than departmental—for instance, in a custom-house, post-office, etc.—a list of eligibles will be prepared containing the names of those who were examined in the particular customs district, post-office district, etc., as the case may be, where the vacancy exists, and who have expressed a willingness to accept a position in that service, preference being given to legal residents of the district. Persons desiring to be examined for this position should obtain application blanks from the Commission at Washington, and should state in their applications the particular branch or branches of service in which they are willing to accept appointment. Applications for this position should be filed with the Commission at Washington and not with the local board.

INTERNAL-REVENUE BRANCH.

Sec. 185. *Persons desiring to be examined for the Internal-Revenue Service should write for an application blank and information to the secretary of the board of examiners at the headquarters of the district in which they wish employment.* There is but one examination for positions in this service. The minimum age limitation is 21 years. There is no maximum age limitation.

Sec. 186. *Internal-revenue examination.*—Time allowed, six hours. Subjects and weights: For specimen questions of this examination, except the fifth subject, see first-grade basis, section 62. Specimen questions will be furnished in the circular of information which accompanies the application blanks. Below will be found a table of the subjects and weights of this examination. Specimen questions may be obtained from the respective local examining boards, as explained above:

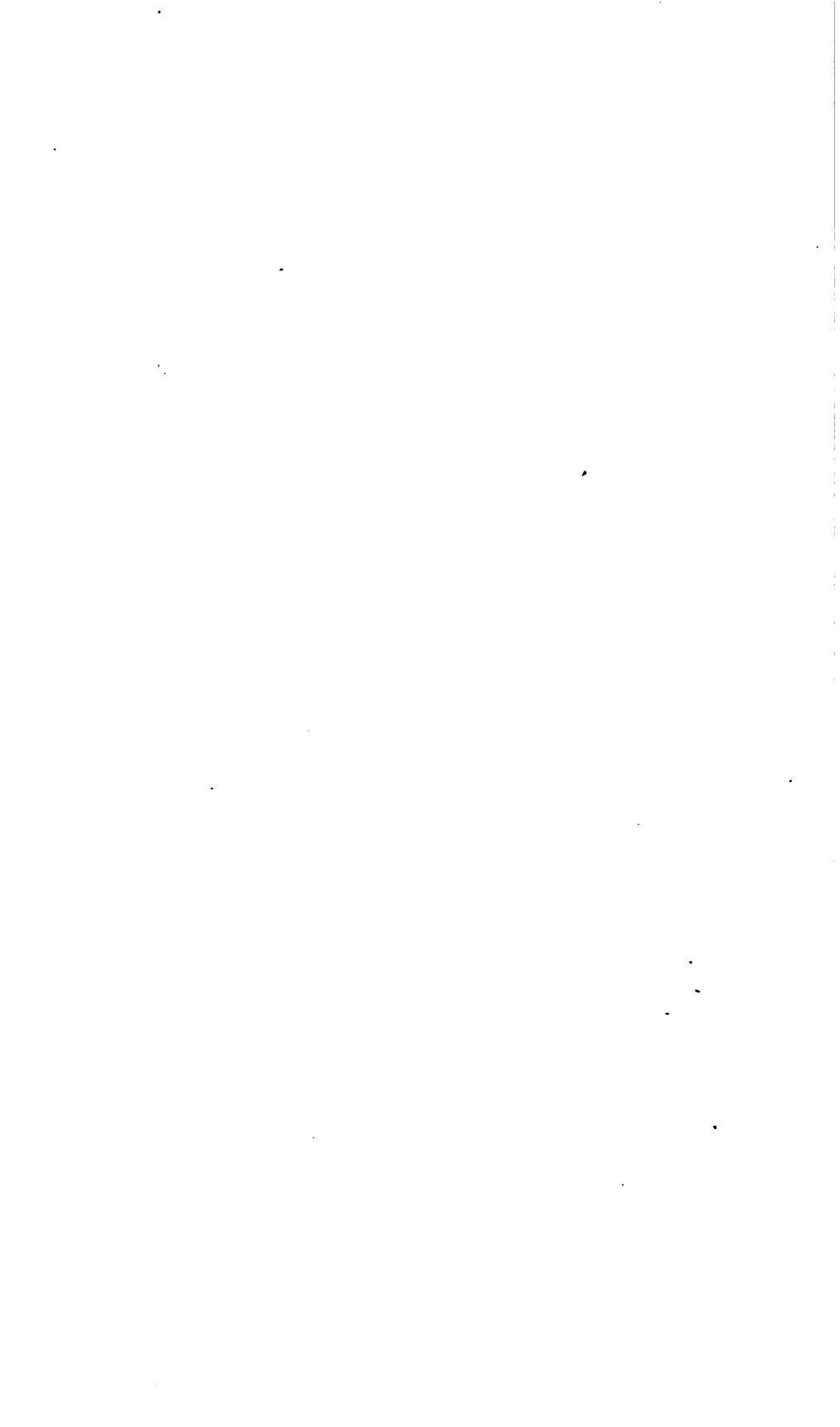
Subjects.	Weights.
1. Spelling.....	5
2. Practical arithmetic.....	40
3. Letter writing.....	15
4. Penmanship.....	10
5. Copying from plain copy.....	10
6. Elementary physics pertaining to gauging....	20
Total.....	100

The cities in which headquarters are located are as follows: Birmingham, Ala.; Little Rock, Ark.; San Francisco, Sacramento, Cal.; Denver, Colo.; Hartford, Conn.; Jacksonville, Fla.; Atlanta, Ga.; Chicago, Peoria, Springfield, East St. Louis, Ill.; Lawrenceburg, Terre Haute, Ind.; Dubuque, Burlington, Iowa; Leavenworth, Kans.; Owensboro, Louisville, Covington, Lexington, Danville, Ky.; Baltimore, Md.; Boston, Mass.; Detroit, Grand Rapids, Mich.; St. Paul, Minn.; St. Louis, Kansas City, Mo.; Helena, Mont.; Omaha, Nebr.; Portsmouth, N. H.; Camden, Newark, N. J.; Santa Fe, N. Mex.; Brooklyn, New York, Albany, Syracuse, Rochester, N. Y.; Raleigh, Asheville, Statesville, N. C.; Cincinnati, Toledo, Chillicothe, Cleveland, Ohio; Portland, Oreg.; Philadelphia, Lancaster, Scranton, Pittsburg, Pa.; Columbia, S. C.; Knoxville, Nashville, Tenn.; Austin, Dallas, Tex.; Richmond, Alexandria, Va.; Parkersburg, W. Va.; Milwaukee, Madison, Wis.

Due notice of the time and of the place of examination will be given to each applicant, and those who receive such notice should appear for examination at least fifteen

minutes before the hour set for the commencement of the examination, and they should provide themselves with pen, penholder, pencil, eraser, ink, and blank paper. Regular examinations are held at the headquarters in each classified internal-revenue district in the spring and fall of each year, and applications for these examinations must be filed with the secretary of the board of examiners at the place where the examination is to be held *at least twenty days before the examination*. All unused applications are canceled after they have been on file six months. The details incident to the preparation for an examination require that a date be set on which the receipt of applications for a particular examination shall cease. Applicants should therefore inquire of the secretary of the local board of examiners when the receipt of applications will close for any examination in which they wish to compete in order that their applications may be filed in due time. *Failure to file application by the time specified will prevent an applicant from being examined.*

There will be but one examination in stenography and typewriting for all branches of the service, whether at Washington or elsewhere. Whenever a vacancy occurs in any branch of the service other than departmental—for instance, in a custom-house, post-office, etc.—a list of eligibles will be prepared containing the names of those who were examined in the particular customs district, post-office district, etc., as the case may be, where the vacancy exists, and who have expressed a willingness to accept a position in that service, preference being given to legal residents of the district. Persons desiring to be examined for this position should obtain application blanks from the Commission at Washington, and should state in their applications the particular branch or branches of service in which they are willing to accept appointment. Applications for this position should be filed with the Commission at Washington and not with the local board.



INDEX.

	Page.
Abstract clerk, Mint and Assay Service, sec. 159.....	91
Acting assistant surgeon, Marine Hospital, secs. 149, 150, 153	85
Address, change of, sec. 40.....	17
Adjuster (various kinds), Mint and Assay Service, sec. 160.....	91
Age, when considered, secs. 116, 154, 172, 178.....	66, 89, 97, 98
Age limits, all services, secs. 28-32	12
Agent, fur-seal island, Treasury Department, sec. 102.....	56
Agent, special, Treasury Department, sec. 102.....	56
Agriculture, Department of—	
vacancies in scientific positions, how filled, sec. 67.....	35
vacancies not in scientific class, how filled, sec. 67.....	35
Aid, Coast and Geodetic Survey, sec. 65	34
Annealer, Mint and Assay Service, sec. 160.....	91
Appeals from markings, sec. 41.....	17
Applicants—	
bureaus and individuals advertising special information for, sec. 34	13
eligible to but one examination at same time (IX), sec. 35.....	15
for trades examinations may sign applications by mark (Reg. III), sec. 35	15
may be examined outside their own State, sec. 1.....	5
may request change of date and place of examination, sec. 4.....	6
must be within age limits (Reg. VII), sec. 35	14
must bring admission card, pen, ink, etc., to examination, sec. 6.....	6
must procure admission cards in advance (Reg. II), sec. 35.....	14
name to be uniform throughout application (Reg. IV), sec. 35	14
not eligible to examinations, sec. 27	12
reevaluations of, secs. 7, 38	6, 17
Application blanks—	
furnished only to intending applicants, sec. 33.....	13
method of securing and executing, sec. 33.....	13
required for certain examinations, sec. 10.....	7
Applications—	
all writing in, to be done in ink (Reg. III), sec. 35.....	13
false statements in, sec. 27.....	12
form numbers of blanks required, sec. 10.....	7
good for only one series of examinations, sec. 4	6
must be filed ten days before schedule examination, secs. 4, 5.....	5
not accepted for special examinations until announced, sec. 1.....	5
not accepted from residents of District of Columbia for certain exami- nations, sec. 8.....	6
not accepted on day of examination (Reg. II), sec. 35.....	14
oath must be made to statements in (Reg. VI), sec. 35.....	14
part of official records of commission (Reg. XV), sec. 35	15
regulations governing approval of, sec. 35.....	13
time limits for filing, secs. 1, 35.....	6, 13
unused, not good for next semiannual examination, sec. 7.....	6
Appointment—	
effect of declining, sec. 42.....	22
failure to receive absolute, sec. 27.....	12
how made, secs. 18-26, 42-44.....	10, 22
prospect of, secs. 23-26, 42-48	11, 22
Apportionment of appointments—	
method of maintaining, secs. 43, 48	22, 27
table showing standing of States, sec. 48.....	28
Apprentice, sec. 66.....	35
Approval of applications, regulations governing, sec. 35	13
Architect of the Capitol, force under, classified, sec. 13	9

	Page
Architect's Office, Supervising, sec. 75	42
Architectural draftsman, sec. 75	42
Army nurse, reinstatement year limit waived	3
Assayer (various kinds), Mint and Assay Service, sec. 158	90
Assayer's computation clerk, Mint and Assay Service, sec. 159	91
Assay Service, Mint and, secs. 157-160	90
Assistant—	
assayer (various kinds), Mint and Assay Service, sec. 158	90
attorneys, when excepted, sec. 22	10
bookkeeper, Mint and Assay Service, sec. 159	91
curator, Mint and Assay Service, sec. 159	91
custodian, Mint and Assay Service, sec. 160	91
custodian, and custodian-janitor, Custodian Service, secs. 163, 165	93, 94
draftsman, Bureau Construction and Repair, sec. 75	40
engineer, Light-House Service, sec. 155	90
Mint and Assay Service, sec. 160	91
engineer's, at testing machine, Ordnance Department, sec. 180	99
examiner, Patent Office—	
description of examination, sec. 68	36
number examined, appointed, etc., in 1896-1898, sec. 46	24
foreman, Mint and Assay Service, sec. 160	90
Ordnance Department, sec. 180	99
forewoman of adjusters, Mint and Assay Service, sec. 160	91
in acid room, Mint and Assay Service, sec. 160	91
in experimental firing, Ordnance Department, sec. 180	99
inspector, Mint and Assay Service, sec. 160	91
Ordnance Department, sec. 180	99
of boilers, secs. 145, 148	81
of hulls, secs. 143, 147	80
of meat. (See Meat inspector.)	
keepers of light-houses and light-ships, Light-House Service, sec. 156 ..	90
melter, Mint and Assay Service, sec. 160	91
microscopist, sec. 69	37
postmaster always excepted (j), sec. 22	10
printer's, sec. 95	53
surgeon, acting, Marine Hospital, secs. 149, 150, 153	85
topographer, sec. 113	63
weigher, Custom-House Service, sec. 182	100
Mint and Assay Service, sec. 160	91
Assistants, Department of Agriculture, sec. 67	35
Attendant—	
Custom-House Service, sec. 182	100
Government Hospital for Insane, sec. 70	38
hospital, Marine Hospital, sec. 149	85
quarantine, Marine Hospital, sec. 149	85
Attorney, when excepted, sec. 22	10
Average—	
general, how obtained, sec. 61	27
when notice of, is sent, sec. 39	17
Baker, Engineer Department, sec. 172	96
Basis examinations, grades of, sec. 59	30
limit of eligibility in basis, sec. 59	30
(See Examinations, and First, Second, and Third Grade examinations.)	
Bank messenger, Mint and Assay Service, sec. 159	91
Barge tender, Engineer Department, sec. 172	96
Blacksmith, sec. 116	66
Engineer Department, sec. 172	96
Mint and Assay Service, sec. 160	91
Ordnance Department, sec. 180	99
Blaster, Engineer Department, sec. 172	96
Bluer, Ordnance Department, sec. 180	99
Boatman—	
Custom-House Service, sec. 182	100
Engineer Department, sec. 172	96
Marine Hospital, sec. 149	85
Boiler maker, Engineer Department, sec. 172	96
Boilers, inspector and assistant inspector of, secs. 145, 146, 148	81
Boiler tender, Ordnance Department, sec. 180	99
Bolt maker, Ordnance Department, sec. 180	99

	Page.
Bookbinder—	
description of examination, sec. 134	77
number examined, appointed, etc., in 1896-1898, sec. 46	26
Bookkeeper—	
assistant, Mint and Assay Service, sec. 159	91
competitors must furnish instruments, sec. 6	6
Departmental, description of examination, sec. 71	38
Mint and Assay Service, sec. 159	91
number examined, appointed, etc., in 1896-1898, sec. 46	24
Book-typewriter, sec. 114	64
Bricklayer, Engineer Department, sec. 172	96
Bricklayer, master, Engineer Department, sec. 172	96
Bridge tender, lock and, Engineer Department, sec. 172	96
Brown, Ordnance Department, sec. 180	99
Bullion sampler, Mint and Assay Service, sec. 160	91
Bureau Construction and Repair, draftsman, sec. 75	40
Bureaus advertising special information for applicants, sec. 34	13
Cabin boy, marine hospital, sec. 149	85
Cabinetmaker, sec. 116	66
Cadet, Revenue-Cutter Service, sec. 161	92
Calker, Engineer Department, sec. 172	96
Captain of watch, Mint and Assay Service, sec. 160	91
Carpenter—	
departmental, sec. 116	66
Engineer Department, sec. 172	96
master, Engineer Department, sec. 172	96
master, Ordnance Department, sec. 180	99
Mint and Assay Service, sec. 160	91
Ordnance Department, sec. 180	99
ship, Engineer Department, sec. 172	96
Carriage maker, master, Ordnance Department, sec. 180	99
Carrier, Post-Office Service, secs. 183, 184	101
Case hardener, Ordnance Department, sec. 180	99
Case maker, Ordnance Department, sec. 180	99
Cashier—	
in first-class post-offices, when excepted, sec. 22	10
in Internal Revenue Service, when excepted, sec. 23	11
Mint and Assay Service, sec. 159	91
one in each customs district excepted, sec. 23	11
Certification—	
eligible to receive but three to same Department, secs. 25, 42	11, 22
method of making, secs. 42-44	22
prospects of, secs. 24-26	11
to be made in exact order of average, secs. 24-26	11
to contain highest three names, secs. 24-26, 42	11, 22
Cement—	
finisher, Engineer Department, sec. 172	96
tester, Engineer Department, sec. 172	96
worker, Engineer Department, sec. 172	96
Chainman, Engineer Department, sec. 172	96
Change of address, sec. 40	17
Chemist—	
Mint and Assay Service, sec. 158	91
Ordnance Department, sec. 180	99
Chief clerk, Mint and Assay Service, sec. 159	91
Chief of division, sec. 20	10
Chinese inspector, Treasury Department, sec. 102	56
Citizenship, United States, prerequisite for examination, secs. 27, 35	12, 14
Civil engineer. (See Engineer.)	
Civil engineer, junior, sec. 174	97
Civil Service Commission—	
charged with investigating any irregularity of appointment or removal	3
has no power to extend classified service	3
not given power of appointment and removal	3
Civil-service law, general scope of	3
Claim of preference, what is meant by, sec. 45	23
Classified laborer—	
Custom-House Service, sec. 182	100
Hospital for Insane, sec. 72	39
Mint and Assay Service, sec. 160	91

	Page.
Classified service—	
extent of the, secs. 12-17.....	9
meaning of the term.....	3
method of filling vacancies in, secs. 18-23.....	10
number included in.....	3
some Engineer Department positions not in the, sec. 177.....	98
Classified workman, Mint and Assay Service, sec. 160	91
Cleaner, Mint and Assay Service, sec. 160	91
Clerical positions—	
Indian Service, sec. 118.....	69
Government Printing Service, sec. 133.....	77
Engineer Service, sec. 173.....	97
Mint and Assay Service, sec. 159.....	91
Clerk—	
Custom-House Service, sec. 182.....	100
Engineer Department, sec. 173.....	97
Land Office, sec. 167.....	94
Mint and Assay Service (various kinds), sec. 159.....	91
navy-yard, sec. 181.....	99
Ordnance Department, sec. 180.....	99
Post-Office Service, secs. 183, 184.....	101
Railway mail, sec. 117.....	67
State Department. (See State Department clerk.)	
Clerk, departmental—	
description of examination, sec. 73.....	39
number examined, appointed, etc., in 1896-1898, sec. 46.....	24
Clerk carrier, Post-Office Service, secs. 183, 184	101
Coachman, sec. 116	66
Coal weigher, Engineer Department, sec. 172	96
Coin counter, minor, Mint and Assay Service, sec. 160	91
Competitors—	
may be examined outside own State, sec. 1.....	5
notice of standing to, sec. 39.....	17
number examined, appointed, etc., in 1896-1898, sec. 46.....	24
rules governing, in examination, sec. 36.....	16
should exercise care in examinations, sec. 1.....	5
Compositor—	
description of examination, sec. 135.....	78
navy-yard, sec. 181.....	99
number examined, appointed, etc., 1896-1898, sec. 46.....	26
Computer, Supervising Architect's Office, sec. 74	39
Concrete finisher, Engineer Department, sec. 172	96
Conductor—	
elevator, secs. 77, 165.....	45, 94
Mint and Assay Service, sec. 160.....	91
Confidential clerks or secretaries excepted, sec. 22	10
Congressional Library, not classified	3
Construction and Repair, Bureau of, draftsman, sec. 75	40
Construction, superintendent of, sec. 110	61
Consular employees excepted, sec. 22	10
Consular service, not classified	3
Cook—	
Departmental, sec. 116.....	66
Engineer Department, sec. 172.....	96
Marine Hospital, sec. 149.....	85
Copyist—	
Engineer Department, sec. 172.....	96
Mint and Assay Service, sec. 159.....	91
Ordnance Department, sec. 180.....	99
ship draftsman, sec. 75.....	40
Correspondence—	
bureaus advertising information for applicants, sec. 34.....	13
with Commission, form for, sec. 11.....	8
to be direct with Commission, secs. 11, 34.....	8, 13
Counter—	
Government Printing Service, sec. 133.....	77
Mint and Assay Service, sec. 160.....	91
minor coin, Mint and Assay Service, sec. 160.....	91
Cranesman, Engineer Department, sec. 172	96

	Page
Crime, persons indicted for, to furnish copy of court record (Reg. VIII), sec. 35.	14
Curator, assistant, Mint and Assay Service, sec. 159.	91
Custodian—	
Assistant, Custodian Service, sec. 163	93
Engineer Department, sec. 172	96
assistant, Mint and Assay Service, sec. 160	91
service, secs. 162-165.	93
Custom-House Service—	
age limits, sec. 29	12
description of examinations, sec. 182	100
extent of, sec. 14	9
excepted positions in, sec. 23	11
Cutter—	
Mint and Assay Service, sec. 160	91
Ordnance Department, sec. 180	99
Dam tender, Engineer Department, sec. 172	96
Danish. (<i>See</i> Modern Languages.)	
Day inspector, Custom-House Service, sec. 182	100
Day-school inspector, Indian Service, sec. 119	69
Deck hand, Marine Hospital, sec. 149	85
Declination of appointment, effect of, sec. 42	22
Decorator, sec. 116	66
Departmental Service—	
age limits, sec. 28	12
extent of the, sec. 13	9
method of certification, secs. 42-44	22
Department of Agriculture. (<i>See</i> Agriculture.)	
Deputy collector—	
of customs, when excepted, sec. 23	11
of internal revenue, when excepted, sec. 23	11
Deputy officer, Custom-House Service, sec. 182	100
Detective. (<i>See</i> Secret Service.)	
Die maker, Mint and Assay Service, sec. 158	90
Die sinker, Ordnance Department, sec. 180	99
Disability, persons physically disqualified ineligible to examination, secs. 27, 117, 142	12, 67, 80
Disciplinarian, Indian Service, sec. 120	69
Dismissal for misconduct debars applicant for one year, sec. 27	12
District of Columbia—	
excessive number of appointments from, sec. 48	27
government of, not classified	3
residents of, not admitted to certain examinations, sec. 8	6
Diver, Engineer Department, sec. 172	96
Doorkeeper, chief, Mint and Assay Service, sec. 160	91
Draftsman—	
Supervising Architect's Office (all kinds), sec. 76	42
Bureau Construction and Repair, sec. 75	40
assistant, Bureau Construction and Repair, sec. 75	40
Navy Department, sec. 75	40
mechanical, sec. 86	49
Ordnance Department, sec. 180	99
topographic, sec. 113	63
Dredge runner, Engineer Department, sec. 172	96
Dynamo tender, sec. 165	94
Electrical engineering, sec. 174	97
Electrician, Ordnance Department, sec. 180	99
Electrotype finisher, sec. 136	79
Electrotype molder, sec. 137	79
Elevator conductor—	
custodian service, sec. 165	94
departmental service, sec. 77	45
Engineer Department, sec. 172	96
Eligibility, secs. 24-26	11
average necessary to attain, sec. 39	17
does not insure appointment, sec. 25	11
in auxiliary examinations, sec. 61	30
when begins and ends, sec. 37 extended to 5 years on basis see sec. 59, page 30	17

	Page.
Eligibles—	
first grade, entered on clerk register only by special request, sec. 55.....	29
may be informed of relative standing on register, sec. 26.....	11
register of, how established, secs. 42, 43.....	22
relative standing of, changed by addition to registers, sec. 24.....	11
relative standing on certain registers disclosed, sec. 25.....	11
who decline appointment, sec. 42.....	22
Employees—	
in sweep cellar, Mint and Assay Service, sec. 160.....	91
special, Treasury Department, sec. 102.....	56
Engineer—	
assistant, Light-House Service, sec. 155.....	90
Mint and Assay Service, secs. 159, 160.....	91
civil, Ordnance Department, sec. 180.....	99
custodian service, secs. 164, 165.....	93, 94
departmental service, sec. 78.....	45
junior civil, sec. 174.....	97
Light-House Service, sec. 155.....	90
marine, Marine Hospital, secs. 149, 152.....	87
of steam vessels, Engineer Department, sec. 172.....	96
Ordnance Department (various kinds), sec. 180.....	99
steam, secs. 78, 116, 152, 164, 165.....	45, 66, 87, 93
Engineman, Ordnance Department, sec. 180.....	99
Engraver—	
Mint and Assay Service, sec. 158.....	90
Ordnance Department, sec. 180.....	99
Enlisted men, Army or Navy—	
not examined without Department's permission, sec. 27.....	12
Examinations—	
alphabetical list of, secs. 1, 10.....	5, 7
auxiliary, eligibility in, sec. 61.....	30
basis, eligibility in, sec. 59.....	30
explanation of weights of, sec. 60.....	30
grades of basis, sec. 59.....	30
haste and carelessness in, sec. 1.....	5
held only when vacancies occur, secs. 1, 10, 21, 52, 74, 76.....	5, 7, 10, 29, 39, 42
may be taken outside applicant's own State, sec. 1.....	5
method of marking papers of, sec. 41.....	17
noncompetitive, positions filled by, sec. 23.....	11
number that can be taken at one time, secs. 3, 35, 55.....	5, 15, 29
number competitors in, in 1896-1898, sec. 46.....	24
order of marking papers of, sec. 26.....	12
passing of does not insure appointment, sec. 25.....	11
persons ineligible to, sec. 27.....	12
positions excepted from, sec. 22.....	10
residents of District of Columbia not admitted to certain, sec. 8.....	6
rules governing competitors in, sec. 36.....	16
schedule, dates, and places, spring of 1898, sec. 9.....	6
services for which held, sec. 49.....	29
sufficient time allowed for, sec. 1.....	5
title of and service to be given in application, secs. 2, 50, 51.....	5, 29
when held, sec. 19.....	5, 6
where to be taken, sec. 19.....	5, 6
(See also First, Second, Third, and Fourth grade examinations.)	
Examiner, assistant, Patent Office. (See Assistant examiner.)	
Examiner, special pension. (See Special pension examiner.)	
Examiner, stock. (See Stock examiner.)	
Examining surgeon, pension, sec. 93.....	52
Excepted positions, secs. 22, 23.....	10
Experience, when considered.....	66, 77, 89, 91, 94, 96, 99, 100
Experience for Government printing positions, how marked, sec. 133.....	77
Extent of the classified civil service, secs. 12-17.....	9
False statement in application, effect of, sec. 27.....	12
Farmer, Indian Service—	
description of examination, sec. 121.....	69
number examined, appointed, etc., in 1896-1898, sec. 46.....	24
Farrier, Ordnance Department, sec. 180.....	99
Federal buildings, positions in, which are filled by examination, sec. 162.....	93
Feeder, Government Printing Office, sec. 133.....	77

	Page.
Females. (<i>See Women.</i>)	
File cutter, Ordnance Department, sec. 180.....	99
Filer, Ordnance Department, sec. 180.....	99
Fireman—	
custodian service, sec. 165.....	94
departmental, sec. 79.....	45
Mint and Assay Service, sec. 160.....	91
Ordnance Department, sec. 180.....	99
First-grade examinations—	
auxiliary examinations to, number may be taken, sec. 55.....	29
basis, sec. 62.....	30
eligibles from, when not entered on clerk register, sec. 55.....	29
Engineer Department, sec. 172.....	96
subtreasury service, sec. 171.....	96
Fish culturist—	
description of examination, sec. 80.....	46
number examined, appointed, etc., in 1896-1898, sec. 46.....	24
Folder, Government Printing Service, sec. 133.....	77
Forge master, Ordnance Department, sec. 180.....	99
Foreign countries, persons employed in, excepted, sec. 22.....	10
Foreman—	
Custom-House Service, sec. 182.....	100
Ordnance Department, sec. 180.....	99
(various kinds) Mint and Assay Service, secs. 158, 160.....	90, 91
Forewoman of adjusters, Mint and Assay Service, sec. 160.....	91
Fort keeper, Engineer Department, sec. 172.....	96
Fourth-grade examinations. (<i>See Trades.</i>)	
Fraudulent "coaching" institutions, advertisements of, sec. 34.....	13
Freedmen's Hospital—	
pupil nurse, how appointed, sec. 98.....	54
French. (<i>See Modern languages.</i>)	
Fur-seal island, agent, Treasury Department, sec. 102.....	56
Gardener, Engineer Department, sec. 172.....	96
Gas fitter—	
Mint and Assay Service, sec. 160.....	91
steam and, Ordnance Department, sec. 180.....	99
Gate keeper, Mint and Assay Service, sec. 160.....	91
Gatherer, Government Printing Service, sec. 133.....	77
Gauge maker, Ordnance Department, sec. 180.....	99
Gauge reader, Engineer Department, sec. 172.....	96
General average, how obtained, sec. 60.....	30
General mechanic, sec. 116.....	66
German. (<i>See Modern languages.</i>)	
Gold boiler, Mint and Assay Service, sec. 160.....	91
Government Hospital for the Insane, secs. 70, 72.....	38, 39
Government Printing Service—	
age limits, sec. 31.....	12
apportionment table, sec. 48.....	28
classification of, sec. 16.....	9
examinations, titles and descriptions of, secs. 133-141.....	77
experience, how marked, sec. 133.....	77
number examined, appointed, etc., in 1896-1898, sec. 46.....	26
special requirements for, sec. 133.....	77
Gauger, Internal-Revenue Service, secs. 185-186.....	102
Guard, Ordnance Department, sec. 180.....	99
United States penitentiary, sec. 81.....	47
Hammersman, Ordnance Department, sec. 180.....	99
Hardener, sec. 116.....	66
Harness maker, Ordnance Department, sec. 180.....	99
Heater, Ordnance Department, sec. 180.....	99
Heating and ventilating draftsman, sec. 76.....	42
Helper—	
Engineer Department (various kinds), sec. 172.....	96
Government Printing Service, sec. 133.....	77
Mint and Assay Service (various kinds), sec. 160.....	91
Hospital—	
attendant, Marine Hospital, sec. 149.....	85
for Insane, Government. (<i>See Government Hospital for the Insane.</i>)	
Freedmen's. (<i>See Freedmen's Hospital.</i>)	
Service, Marine, secs. 149-153.....	85
steward, marine hospital, secs. 149, 151.....	85

	Page.
Hostler, sec. 116.....	66
Hulls, inspector and assistant inspector of, secs. 143, 144, 147.....	80
Hydrographer, Engineer Department, sec. 172.....	96
Immigrant inspector, sec. 82.....	47
Indian schools, supervisor of, sec. 129.....	75
Indian Service—	
age limits, sec. 28.....	12
certification districts into which divided, sec. 44.....	22
clerical positions in, sec. 118.....	69
examinations, titles and descriptions of, secs. 118-132.....	69
Indians employed in, when excepted, sec. 22.....	10
number examined, appointed, etc., in 1896-1898, sec. 46.....	26
Industrial teacher—	
description of examination, sec. 122.....	70
number examined, appointed, etc., in 1896-1898, sec. 46.....	26
Influential persons (presumably), useless to secure aid of, secs. 11, 33.....	8, 13
Inquiries—	
blank for making, sec. 11.....	8
to be sent direct to Commission, secs. 11, 24.....	8, 11
Insane Asylum, St. Elizabeth's. (<i>See</i> Government Hospital for the Insane.)	
Inspector—	
assistant, Mint and Assay Service, sec. 160.....	91
of boilers, local, secs. 145, 148.....	81
of boilers, assistant, secs. 146, 148.....	81
chief and resident, Ordnance Department, sec. 180.....	99
Chinese, Treasury Department, sec. 102.....	56
day, Custom-House Service, sec. 182.....	100
day school, Indian Service, sec. 119.....	69
of hulls, local, secs. 143, 147.....	80
of hulls, assistant, secs. 144, 147.....	80
immigrant, sec. 82.....	47
Mint and Assay Service, secs. 158, 159.....	90
night, Custom-House Service, sec. 182.....	100
of meat. (<i>See</i> Meat inspector.)	
Ordnance Department, sec. 180.....	99
post-office, sec. 94.....	53
sanitary, Marine Hospital, sec. 153.....	88
special, Treasury Department, sec. 102.....	56
(various kinds), Engineer Department, sec. 172.....	96
Inspectress, Custom-House Service, sec. 182.....	100
Institutions advertising special information for applicants, sec. 34.....	13
Instrument maker, Ordnance Department, sec. 180.....	99
Internal Revenue Service—	
age limits, sec. 32.....	12
classification of, sec. 17.....	9
description of examination, secs. 185, 186.....	102
excepted positions in, sec. 23.....	11
Interne, marine hospital, sec. 149.....	85
Intoxicating beverages, applicants addicted to, not examined, sec. 27.....	12
Italian. (<i>See</i> Modern languages.)	
Janitor—	
custodian service, sec. 165.....	94
Custom-House Service, sec. 182.....	100
Mint and Assay Service, sec. 160.....	91
Junior architectural draftsman, sec. 76.....	42
Junior civil engineer, sec. 174.....	97
Keeper—	
light-house and light-ship, sec. 156.....	90
torpedo station, Engineer Department, sec. 172.....	96
Kindergarten teacher—	
description of examination, sec. 123.....	71
number examined, appointed, etc., in 1896-1898, sec. 46.....	26
Knife grinder, sec. 116.....	66
Laborers, classified—	
Government Hospital for Insane, sec. 72.....	39
marine hospital, sec. 149.....	85
Mint and Assay Service, sec. 160.....	91
Laborer—	
master, Engineer Department, sec. 172.....	96
skilled. (<i>See</i> Skilled laborers.)	

	Page.
Land office, examinations (all kinds) secs. 166-170	94
Languages, modern. (See Modern languages.)	
Laundress, sec. 116	66
Law clerk—	
description of examination, sec. 84	48
number examined, appointed, etc., in 1896-1898, sec. 46	25
Leadman, Engineer Department, sec. 172	96
Leather worker, sec. 116	66
Legal residence (Reg. VI), sec. 35	13
Levelman, Engineer Department, sec. 172	96
Library, Congressional, not classified.	3
Life-Saving Service, sec. 154	89
Light-house and light-ship keeper, sec. 156	90
Light-House Service, secs. 155-156	90
Light keeper, Engineer Department, sec. 172	96
Local inspector of boilers, secs. 145-148	81
Local inspector of hulls, secs. 143-147	80
Lock and bridge tender, Engineer Department, sec. 172	96
Lockmaster, Engineer Department, sec. 172	96
Locksmith, sec. 116	66
Machinist, sec. 116	66
Engineer Department, sec. 172	96
Mint and Assay Service, sec. 160	91
Ordnance Department, sec. 180	99
master, Ordnance Department, sec. 180	99
Manual-training teacher—	
description of examination, sec. 124	72
Map printer, sec. 85	49
Marine engineer, Marine-Hospital Service, sec. 152	87
Marine-Hospital Service, secs. 149-153	85
Marine hospitals, where situated, sec. 149	85
Marking—	
appeals from, sec. 41	17
examination papers, rules for, sec. 41	17
Mason—	
departmental, sec. 116	66
Engineer Department, sec. 172	96
master, Engineer Department, sec. 172	96
Ordnance Department, sec. 180	99
Master—	
carpenter, Ordnance Department, sec. 180	99
carriage maker, Ordnance Department, sec. 180	99
deputy inspector and, Engineer Department, sec. 172	96
Engineer Department (various kinds), sec. 172	96
laborer, Engineer Department, sec. 172	96
Light-House Service, secs. 153, 156	90
machinist, Ordnance Department, sec. 180	99
marine hospital, sec. 149	85
mechanic, Ordnance Department, secs. 180	99
weaver of mats, Engineer Department, sec. 172	96
workman, Ordnance Department, sec. 180	99
Mate—	
Engineer Department, sec. 172	96
deputy inspector and, Engineer Department, sec. 172	96
Light-House Service, sec. 155	90
Matron, Indian Service—	
description of examination, sec. 125	73
number examined, appointed, etc., in 1896-1898, sec. 46	26
Meat inspector—	
description of examination, sec. 83	47
number examined, appointed, etc., in 1896-1898, sec. 46	25
Mechanical draftsman—	
description of examination, sec. 86	49
number examined, appointed, etc., in 1896-1898, sec. 46	24
Mechanical engineer, Ordnance Department, secs. 180	99
Mechanic—	
Ordnance Department, sec. 180	99
master, Ordnance Department, secs. 180	99
master, Engineer Department, sec. 172	96

	Page.
Melter (various kinds)—	
Mint and Assay Service, sec. 160.....	91
Ordnance Department, sec. 180.....	99
Messenger—	
bank, Mint and Assay Service, sec. 160.....	91
Custom-House Service, sec. 182.....	100
departmental, description of examination, sec. 87.....	49
departmental, number examined, appointed, etc., in 1896-1898, sec. 46.....	24
Ordnance Department, sec. 180.....	99
Messenger boy—	
description of examination, sec. 88.....	50
number examined, appointed, etc., in 1896-1898, sec. 46.....	24
Messenger-janitor, Engineer Department, sec. 172.....	96
Meteorological observer, sec. 91.....	52
Method—	
of certification, secs. 42-44.....	20
of filling vacancies in the classified service, secs. 18-26.....	10
of marking examination papers, sec. 41.....	17
of securing and executing application blanks, sec. 33.....	13
Microscopist, assistant, sec. 69.....	37
Military service, employees detailed from, excepted, sec. 22.....	10
Miller, sec. 116.....	66
Millwright—	
Mint and Assay Service, sec. 160.....	91
Minor coin counter, Mint and Assay Service, sec. 160.....	91
Mint and Assay Service, secs. 157, 160.....	90
Misconduct, persons dismissed for, secs. 27, 35.....	12, 13
Model repairer, sec. 89.....	50
Modern languages (Danish, French, German, Italian, Spanish, Swedish)—	
description of examination, sec. 90.....	50
number examined, appointed, etc., in 1896-1898, sec. 46.....	24
Molder, Ordnance Department, sec. 180.....	99
Name of applicant to be uniform throughout application (Reg. IV), sec. 35.....	14
Naval Service, employees detailed from, excepted, sec. 22.....	10
Navy-Yard Service, sec. 181.....	99
Notice of standing to competitors, sec. 39.....	17
Numberer, Government Printing Service, sec. 133.....	77
Nurse—	
army, reinstatement year limit waived.....	3
marine hospital, sec. 149.....	85
pupil, Freedmen's Hospital, sec. 98.....	54
trained, Indian Service, sec. 132.....	77
Observer, sextant, Engineer Department, sec. 172.....	96
Observer, Weather Bureau—	
description of examination, sec. 91.....	52
number examined, appointed, etc., in 1896-1898, sec. 46.....	25
Oiler, Mint and Assay Service, sec. 160.....	91
Opener and packer, sec. 182.....	100
Ordnance Department Service, secs. 178-180.....	98
Overseer, Engineer Department, sec. 172.....	96
Painter—	
Departmental, sec. 116.....	66
Engineer Department, sec. 172.....	96
master, Ordnance Department, sec. 180.....	99
Mint and Assay Service, sec. 160.....	91
Ordnance Department, sec. 180.....	99
Patent Office, assistant examiner in. (See Assistant Examiner.)	
Pattern maker, Ordnance Department, sec. 180.....	99
Pension agencies—	
certification districts into which divided, sec. 44.....	22
method of filling vacancies in, sec. 92.....	52
Pension examiner, special. (See Special pension examiner.)	
Pension examining surgeon, sec. 93.....	52
Persons who shall not be examined, sec. 27.....	12
Physical qualifications in examinations.....	66, 67, 80, 89, 92, 99
Physician, Indian Service—	
description of examination, sec. 127.....	74
number examined, appointed, etc., in 1896-1898, sec. 46.....	26
File driver, Engineer Department, sec. 172.....	96

	Page.
Pilot—	
deputy inspector and, Engineer Department, sec. 172	96
Engineer Department, sec. 172	96
Marine-Hospital Service, sec. 149	85
Pipe fitter, Engineer Department, sec. 172	96
Piper, Ordnance Department, sec. 180	99
Plasterer, sec. 116	66
Plate cleaner, sec. 116	66
Plate printer, sec. 116	66
Plumber—	
Departmental, sec. 116	66
Engineer Department, sec. 172	96
Mint and Assay Service, sec. 160	91
Ordnance Department, sec. 180	99
Polisher, Ordnance Department, sec. 180	99
Porter, custom-house, sec. 182	100
Positions which may be filled without examination, sec. 22	10
Postmaster, assistant, always excepted, sec. 22	10
Post-office inspector, sec. 94	53
Post-Office Service—	
age limits, sec. 30	12
classification of, sec. 15	9
description of examination, secs. 183-184	101
excepted positions in, sec. 22	10
Powderman, Engineer Department, sec. 172	96
Preference, section 1754, Revised Statutes—	
advantages derived from, sec. 45	21
soldiers and sailors who are not entitled to, sec. 45	21
Pressman—	
description of examination, sec. 138	79
Engineer Department, sec. 172	96
navy-yard, sec. 181	99
number examined, appointed, etc., in 1896-1898, sec. 46	26
Principal teacher—	
description of examination, sec. 126	74
number examined, appointed, etc., in 1896-1898, sec. 46	26
Printer, Ordnance Department, sec. 180	99
Printers' assistant, sec. 95	53
Private secretaries excepted, sec. 22	10
Promotion examination, departmental service, sec. 96	53
Prospect of appointment, secs. 46-48	24
Prover, Mint and Assay Service, sec. 160	91
Proof reader, departmental service—	
description of examination, sec. 97	54
number examined, appointed, etc., in 1896-1898, sec. 46	25
Proof reader, Government Printing Service, sec. 139	79
Pupil nurse, Freedmen's Hospital, sec. 98	54
Quarantine attendant, Marine Hospital, sec. 149	85
Quarantine stations, where situated, sec. 149	85
Quarryman, master, Engineer Department, sec. 172	96
Railway Mail Service—	
examination, description of, sec. 117	67
high average necessary for certification, sec. 47	26
number examined, appointed, etc., in 1896-1898, sec. 46	25
requirements for, sec. 117	67
Rating examination papers, method of, sec. 41	17
Recorder, Engineer Department, sec. 172	96
Reexaminations, when and to whom allowed, secs. 7, 38	6, 17
Refiner, Mint and Assay Service, sec. 158	90
Register and receiver's clerk, sec. 168	95
Registers of eligibles, how established, secs. 42, 44	22
Registrar of accounts, Mint and Assay Service, sec. 159	91
Registrar of deposits, Mint and Assay Service, sec. 159	91
Regulations governing approval of applications, sec. 35	13
Relative standing, on what registers disclosed, sec. 25	11
Residence, legal (Reg. VI), sec. 35	14
Revenue-Cutter Service, sec. 161	92
Reviewer, Adjuster and, Mint and Assay Service, sec. 160	91
Rigger—	
Engineer Department, sec. 172	96
Ordnance Department, sec. 180	99

	Page.
Rodsman, Engineer Department, sec. 172	96
Roller, Mint and Assay Service, sec. 160	91
Roller maker, sec. 116	66
Rotary filer, Ordnance Department, sec. 180	99
Rules for marking examination papers, sec. 41	17
Rules governing competitors in examinations, sec. 36	16
Saddler, Ordnance Department, sec. 180	99
Sailmaker, sec. 116	66
Sailors, entitled to preference, Section 1754 R. S., sec. 45	21
St. Elizabeth's Insane Asylum, secs. 70, 72	38, 39
Salaries at which certain appointments are made, sec. 46	24
Sampler—	
bullion, Mint and Assay Service, sec. 160	91
Custom-House Service, sec. 182	100
Sanitary inspector, Marine Hospital, sec. 153	88
Sawyer, sec. 116	66
Schedule of examinations, dates and places, spring of 1898, sec. 9	6
Schools—	
advertising special information to applicants, sec. 34	13
Indian, Supervisor of, sec. 129	75
Screw maker, Ordnance Department, sec. 180	99
Seaman, Marine Hospital, sec. 149	85
Seamstress, Indian Service—	
description of examination, sec. 128	75
number examined, appointed, etc., in 1896-1898, sec. 46	26
Second assistant assayer, Mint and Assay Service, sec. 158	90
Second-grade examinations—	
basis, sec. 63	31
separate applications for each examination, sec. 56	29
specimen questions of basis, sec. 63	31
Secretaries, private, excepted, sec. 22	10
Secret Service, sec. 99	54
Senior architectural draftsman, sec. 76	42
Sewer, Government Printing Service, sec. 133	77
Sewing woman, Mint and Assay Service, sec. 160	91
Sextant observer, Engineer Department, sec. 172	96
Sheet-iron worker, Engineer Department, sec. 172	96
Ship carpenter, Engineer Department, sec. 172	96
Ship drawings, tracer or copyist of, sec. 75	40
Shipping commissioner, sec. 100	55
Shopkeeper, Marine-Hospital Service, sec. 149	85
Silver reducer, Mint and Assay Service, sec. 160	91
Skilled laborer, Departmental, description of examination, sec. 101	55
Skilled laborer, Government Printing Service—	
description of examination, sec. 140	79
number examined, appointed, etc., in 1896-1898, sec. 46	26
Skilled laborer, Ordnance Department, sec. 180	99
Skilled workman, Mint and Assay Service, sec. 160	91
Smith, Ordnance Department, sec. 180	99
Soldiers, entitled to preference, Section 1754, R. S., sec. 45	21
Spanish. (See Modern languages.)	
Special agent Treasury Department, sec. 102	56
Special employees, Treasury Department, sec. 102	56
Special inspectors, Treasury Department, sec. 102	56
Special pension examiner—	
description of examination, sec. 103	56
number examined, appointed, etc., in 1896-1898, sec. 46	25
Stadia man, Engineer Department, sec. 172	96
State Department, employees in foreign countries excepted, sec. 22	10
State Department clerk, sec. 104	57
Station superintendent, sec. 105	58
Statistical field agent, sec. 106	58
Statistics of examinations and appointments, 1896-1898, sec. 46	24
Steam and gas fitter, Ordnance Department, sec. 180	99
Steamboat-Inspection Service, secs. 142-148	80
Steam engineer	45, 66, 87, 93, 94
Steam fitter, sec. 116	66
Steam-hammer driver, Ordnance Department, sec. 180	99
Steersman, Engineer Department, sec. 172	96

	Page.
Stenography —	
competitors may bring notebook or paper for dictation exercise, sec. 6..	6
description of examination, sec. 107	59
Engineer Department, sec. 172	97
navy-yard, sec. 181	99
number examined, appointed, etc., 1896-1898, sec. 46	25
Ordnance Department, sec. 180	99
supply of male eligibles insufficient, sec. 47	26
Stenography and typewriting combined , sec. 108	60
Stereotyper —	
description of examination, sec. 141	80
number examined, appointed, etc., in 1896-1898, sec. 46	26
Steward , Engineer Department, sec. 172	96
Steward , hospital, Marine-Hospital Service, sec. 151	85
Stock examiner —	
certification districts into which divided, sec. 44	22
description of examination, sec. 109	61
number examined, appointed, etc., in 1896-1898, sec. 46	25
Stonecutter , sec. 116	66
Storekeeper —	
Engineer Department, sec. 172	96
Internal-Revenue Service, secs. 185, 186	102
Mint and Assay Service, sec. 159	91
and gauger, secs. 185, 186	102
Striker , Engineer Department, sec. 172	96
Structural iron draftsman , sec. 76	42
Subinspector , Engineer Department, sec. 172	96
Subjects and weights , explanation of, sec. 60	30
Suboverseer , Engineer Department, sec. 172	96
Subtreasury Service , sec. 171	96
Superintendent , Indian Service, sec. 130	75
Superintendent of construction , sec. 110	61
Superintendent of station . (See Station superintendent.)	
Supervising Architect's office , draftsmen in, sec. 76	42
Supervisor of Indian schools , sec. 129	75
Surgeon —	
acting assistant, Marine Hospital, sec. 150	85
pension examining, sec. 93	52
Surveyor —	
assistant, Engineer Department, sec. 172	96
Engineer Department, sec. 172	96
Surveyor-general's office , method of filling vacancies in, secs. 166-170	94
Swedish . (See Modern languages.)	
Table showing number examined , appointed, etc., 1896-1898, sec. 46	24
Tagger —	
certification districts into which divided, sec. 44	22
description of examination, sec. 111	63
number examined, appointed, etc., in 1896-1898, sec. 46	25
Tailor , sec. 116	66
Teacher —	
description of examination, sec. 131	75
number examined, appointed, etc., in 1896-1898, sec. 46	26
(See also Industrial teacher, Kindergarten teacher, Manual-training teacher, and Principal teacher.)	
Teacher of industries . (See Manual-training teacher.)	
Teacher, manual training . (See Manual.)	
Teamster , sec. 116	66
Technical examinations , separate applications for each, sec. 58	30
Technical positions , certification for, sec. 44	22
Telegraph operator , Ordnance Department, sec. 180	99
Telegraph and telephone lineman , Engineer Department, sec. 172	96
Telegraphy , sec. 112	63
Temperer , Ordnance Department, sec. 180	99
Territories , government of, not classified	3
Tender , dynamo, sec. 165	94
Third assistant assayer , Mint and Assay Service, sec. 158	90
Third-grade examinations —	
applications to be filed for, sec. 57	29
basis, sec. 64	33
subtreasury service, sec. 171	96

	Page.
Timekeeper—	
Engineer Department, sec. 172	96
Ordnance Department, sec. 180	99
Tinner, Ordnance Department, sec. 180	99
Tinsmith, Ordnance Department, sec. 180	99
Tool grinder, Ordnance Department, sec. 180	99
Tool maker, Ordnance Department, sec. 180	99
Topographer—	
assistant, sec. 113	63
Engineer Department, sec. 172	96
Topographic draftsman—	
description of examination, secs. 113, 170	63, 95
number examined, appointed, etc., in 1896-1898, sec. 46	24
Tracer, Bureau Construction and Repair, sec. 75	40
Track man, Engineer Department, sec. 172	96
Trades examinations, requirements of, sec. 116, 160, 172	66, 91, 96
Trained nurse, Indian Service, sec. 132	77
Transferrer, sec. 116	66
Transit man, Engineer Department, sec. 172	96
Typewriting—	
applicants must furnish machines, etc., sec. 6	6
description of examination, sec. 114	64
Engineer Department, sec. 172	96
Navy-yard, sec. 181	99
number examined, appointed, etc., in 1896-1898, sec. 46	25
Ordnance Department, sec. 180	99
supply of male eligibles insufficient, sec. 47	26
Typewriting and Stenography combined, sec. 108	60
Unclassified positions, Engineer Service, sec. 177	98
Unclassified service—	
meaning of the term	3
branches of the executive service in the	3
Unused applications, not good for next semiannual examination, sec. 7	6
Vacancies—	
method of filling, secs. 18-26, 42-44	10, 22
filled by transfer, promotion, etc., sec. 20	10
for which registers are maintained, sec. 18	10
for which registers are not maintained, secs. 19, 20	10
Valve tender, Engineer Department, sec. 172	96
Ventilating, heating and, draftsman, sec. 76	42
Vitrioler, Ordnance Department, sec. 180	99
Vouchers, requirements of (Reg. XII), sec. 35	15
Watchman—	
custodian service, sec. 165	94
custom-house service, sec. 182	100
description of examination, Departmental, sec. 115	66
Engineer Department, sec. 172	96
Mint and Assay Service, sec. 160	91
number examined, appointed, etc., in 1896-1898, sec. 46	25
Ordnance Department, sec. 180	99
Weather Bureau, observer, sec. 91	52
Weaver of mats, master, Engineer Department, sec. 172	96
Weigher—	
Mint and Assay Service (various kinds), sec. 158	90
assistant, Mint and Assay Service, sec. 160	91
Ordnance Department, sec. 180	99
Weights, explanation of subjects and, sec. 60	30
Wheelman, Ordnance Department, sec. 180	99
Wheelwright—	
Departmental, sec. 116	66
Ordnance Department, sec. 180	99
Widow of soldier or sailor, reinstatement year limit waived	3
Wireman, sec. 165	94
Women, little prospect of appointment to clerical positions, sec. 47	26
Workman—	
classified, Mint and Assay Service, sec. 160	91
master, Ordnance Department, sec. 180	99







This book should be returned to
the Library on or before the last date
stamped below.

A fine of five cents a day is incurred
by retaining it beyond the specified
time.

Please return promptly.

DUE FEB 20 1935

Widener Library



3 2044 090 093 808